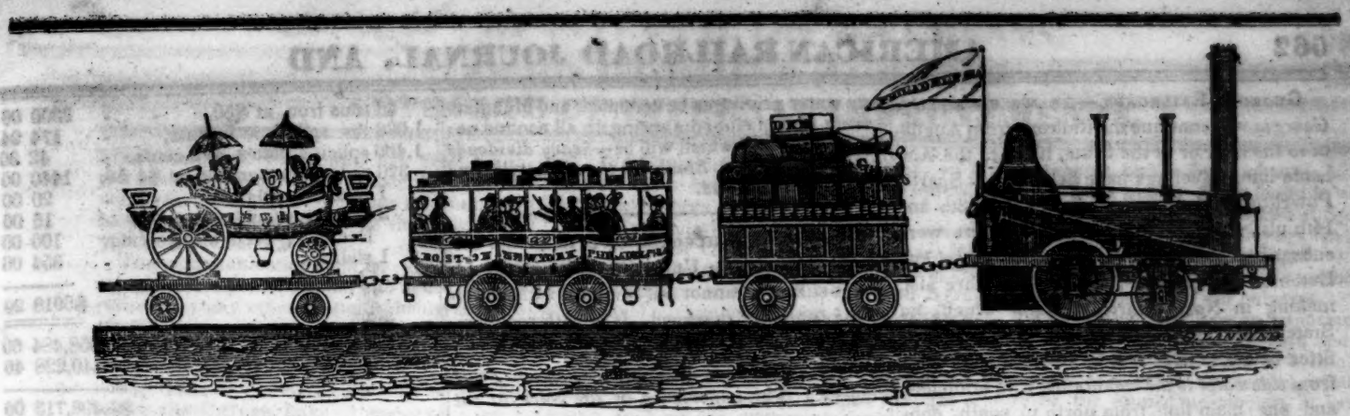

AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, SEPTEMBER 7, 1833.

Tonnewanda Railroad.—We refered in a previous number to the above road, by way of showing the avidity with which the stock of judiciously located Railroads will be taken by those who know and appreciate their importance to the country. The Tonnewanda Railroad, commencing at Rochester, will pass through one of the most fertile sections of western New-York, and also through several flourishing villages terminating for the present at Attica, but eventually at Buffalo: it cannot fail of becoming a great thorough-fare for travel between those places, as well as for transportation of produce, raised along its line, to the canal. The travel alone, we have not a doubt, will produce an income sufficient to pay the interest upon the capital, whilst the transportation will pay the expense of the carrying establishment. It will not only be a convenience to those residing in its immediate vicinity, but will be to them in reality the means of greatly enhancing the value of their property. They would indeed be the gainers if their property was taxed to build the road, and they were to receive nothing back in the shape of dividends. Every improvement of the kind actually increases the wealth of the country through which it passes more than the cost of the improvement—of this fact none are better satisfied than those residing in the vicinity of the Erie Canal. The expenditure of fifteen millions of dollars, within ten years, in the state of New-York, for the construction of Railroads and Canals, would not only increase the value of property to that amount over its present value, but it would also enhance the value of property to at least that amount, beyond what it would be otherwise increased if the improvements were not made. Thus the owners of real estate will be greatly benefitted, the inhabitants residing on the route will be highly accommodated, the travelling community will find their convenience greatly promoted, and those who have money to spare will find a safe and profitable investment for it. We cannot therefore doubt but that this road will be commenced at an early day, and prosecuted with spirit to its completion.

Richmond and Potomac Creek Railroad.—We were somewhat surprised to find the editor of the Richmond Whig opposed to this contemplated railroad. His uniform devotion to the cause of internal improvements in Virginia, led us to anticipate a ready support of the measure from him. He, however, in referring to the following communication from Virginia's able engineer, has explained the reason of his objection to the measure, (a desire to see the James and Kanawha improvement undertaken,) and it is one, we admit, which in many cases would be satisfactory—but not in the present, for we believe that the only way to do any thingin Virginia, towards improving her internal communication, at an early period, is to project works in the different parts of the state, that the whole population may become interested in them. There must be a general, a pervading desire for them, before much can be done.

There can be no doubt, we think, of the far greater importance to Virginia, but more especially to Richmond, of the *James* and *Kanawha* improvement—yet we are not sure but that this contemplated railroad would rather facilitate than retard that work, as it would serve to familiarise the inhabitants to such improvements; and they would of course see and feel, if they travelled much, the vast importance of such works to individuals, as well as to the public.

We should be much gratified to see this road in progress, as it is another and an important link in the "grand Atlantic chain." We give the annexed letter of Moncure Robinson, Esq. who, as the editor of the Whig well says, is "high authority," and we certainly agree with him that Mr. Robinson ought to be employed to survey the route.

Broad Mountain, Schuylkill Co. Pa.
July 31st, 1833.

My Dear Sir—I had intended to have had the pleasure of seeing you, when I was last in Richmond, but I understood, at the time that you were occasioned some annoyance by a subpœna of the United States Court in the case of Randolph, and deemed it as well not to trouble you with other matters.

I wished to have said a word to you, and to have asked your aid in behalf of the Richmond and Potomac Creek Railroad. Next to the James and Kanawha Improvement, nothing which has been proposed in Virginia, seems to me to promise such benefits to the city of Richmond, and to the State at large, and as the amount required for its execution would be comparatively small, there seems to be only requisite some little concert among those who can appreciate the importance of the Improvement, to induce its being taken up and effected. If a survey could be had, and a report and estimate be made by the next session of the Legislature, and a charter and pledge of aid to some limited extent from the State be then obtained, I should entertain no doubt that the necessary remaining stock could be made up by subscription. You can better judge than myself, how the first step in the matter (the survey) may be effected. If the necessary sums for the purpose could be made up in Richmond and Fredericksburg, I would suggest an application by some of the citizens, to the War Department, for an immediate survey of the Route, by some of the members of the Topographical Corps.

I have taken the liberty of writing you on this subject, from a belief that you will, with pleasure, co-operate in favor of a measure, which I feel assured will, if executed, be fraught with most important results to our Ancient Dominion. The limits of a letter would not admit of my presenting to you the many views in favor of it; and I should feel it unnecessary to do so, as your own reflections will, I have no doubt, readily suggest them. Allow me to ask your attention to it, and the co-operation of your press in its behalf, if you should, on examination, entertain as favorable impressions of the scheme as I think you will.

I remain, dear sir, yours, very truly,
M. Robinson.

J. H. Pleasants, Esq.

Chemung Canal.—The navigation on this canal has commenced, and several boats passed on the 26th ult. between Havana and the summit level at Horse Head.

GEORGIA RAILROADS.—As we anticipated, *Georgia* will continue the Railroad from Augusta to the interior of the State, if not to the Alabama line. Meetings have been held at Sparta, Powelton, and Mount Zion, on the 13th and 14th ult., at which over 100,000 dollars were subscribed to the stock of the Augusta and Eatonton Railroad. Further efforts are also making in North Carolina—than which, no State *needs* them more, or would be more benefitted by Railroads; one or two principal lines from *tide water to the mountains*, with branches, and one main line from north to south, connecting the Petersburg road with another in South Carolina, at Cheraw, would soon give to North Carolina a new aspect. Thus it is that the true interests of the country are to be promoted—and he who aids in the extension of works designed to facilitate the intercourse of the different States, or even of remote parts of the same State, is far more entitled to the gratitude of his countrymen than he who spends a whole life fattening upon the spoils of the enemy, or "feeding at the public crib."

DANSVILLE AND ROCHESTER RAILROAD.—By the following extract from the Dansville (N. Y.) Chronicle, we learn that strong hopes are entertained of the success of their Railroad. Of its importance to those flourishing villages—or rather city, one of them—no one can entertain a doubt, and of its construction, at an early period, *we* have not a doubt.

With the friends of this important project, it has been, until recently, a matter of doubt whether the stock would be taken up, were the books for subscription opened, because of the general *pressure* in the money market; but late occurrences have given a new impulse to the spirit of enterprize, and removed all doubts that existed upon the subject, affording the greatest assurance that no difficulty whatever will now be experienced in disposing of the stock. In Rochester, and all the places interested, the greatest anxiety to have the books opened and the necessary measures adopted for the speedy consummation of the matter, is manifested. The Commissioners appointed under the act to incorporate this Company are to meet in Geneseo to-morrow, to determine upon the time most expedient to open the books for subscriptions, and we are informed that the time contemplated is the early part of next month. *We think the sooner the better.*

By letters received in this village from influential and intelligent gentlemen of Rochester, and from other sources, we learn that capitalists *there* are anxious for an opportunity to take the stock; that they consider the prospect of a profitable investment of money in the stock of this company far more certain than in that of the Tonnewanda Route, the capital stock of which ($500,000) was all taken up in Rochester on the 14th inst. *before the books had been open three hours;* a fact which proves conclusively that the stock of the Dansville Railroad would be eagerly sought after.

The route of the road to this village is one of the most delightful in the world—the country level, rich, and fertile—a portion of it in a high state of cultivation and rapidly advancing in wealth—and the village of Dansville, at its termination, is one of the most flourishing and pleasantly situated villages in Western New-York. Its hydraulic privileges are presumed to be equal, if not superior, to those of Rochester, as they are more *extensive*, and afford better opportunity for erecting the various kinds of manufacturing establishments. It is already quite a manufacturing town, yet not one hundredth part of the Mill Sites are occupied—and the moment it is ascertained that we are to have a Railroad, capital will find its way here, our water privileges be occupied, and Manufacturing Establishments spring up all around us; the result of all which will be—*heavy dividends upon the Capital Stock of the Dansville and Rochester Railroad.*

MAD RIVER RAILROAD.—We think the following Report of the United States Engineer, upon his surveys, cannot fail to afford satisfaction to the friends of this road. It is with real pleasure that we lay it before our readers, although we recently devoted a large space to the same subject. The *importance* of the work to the great west will warrant us in referring often to it.

Report of the United States Engineer, in relation to the Mad River and Lake Erie Railroad, submitted to the Commissioners, at their meeting at Springfield, Ohio, on the 31st ult.:

SPRINGFIELD, July 31, 1833.

SIR,—I herewith submit an estimate of the probable expense of constructing the Mad River and Lake Erie Railroad, as determined from the experimental survey made under my direction, during the past and present seasons.

A more full and minute report will be made upon the return of the party to Washington, accompanied by maps and profiles of the whole route. The limited time we have been engaged, and the necessity of attending to other duties, have rendered the completion of these drawings at this time impracticable.

The excavation and embankment have been estimated at 10 cents the cubic yard; the masonry at $2 the perch; and the grubbing at $2 the rod—prices amply sufficient to cover these respective items. No doubt is entertained that the work can in many instances be done at much lower rates. It was thought best, however, that the estimate should, if any thing, exceed the actual cost, rather than fall below it.

The grading upon the road will be easier than was at first anticipated, and can in many instances be much improved upon its final location, when more time and labor will be necessarily expended than could reasonably be expected upon an experimental survey. But even upon the line as at present traced, they are such as to do away entirely with the necessity of any stationary power whatever, rendering it peculiarly adapted for the employment of locomotive engines exclusively, in transportation upon the road. The advantages of the locomotive system over any other, especially in the transportation of passengers, is too evident to need any remark.

TABLE OF GRADES.

Under 10 feet per mile,	63 miles,	1090 feet.
Between 10 and 20	40	3200
" 20 and 30	22	4240
" 30 and 40	12	4640
" 40 and 45	7	4640
" 45 and 50	5	2000

The whole length of curvation upon the road is 12 69 miles, of which 9.81 miles will have a radius of from one to four miles; of the remainder, the radius need not, in any case, fall short of three thousand feet. The line is capable of equal improvement as respects the length and location of the curves, as in case of the gradation.

The estimate has been proposed separately, with a view to the employment of either steam or horse power. Should the former be determined upon, the necessity of a horse path will be dispensed with, and of course this amount will be saved in the cost of construction.

Estimate of the cost of the Mad River and Lake Erie Railroad, *double track*:

From Sandusky City to Dayton, 153 miles.

Gradation and masonry, average per mile, $2,877 31, - - - $440,228 40

Superstructure of one mile.

480 perches of broken stone, at $1,	$480 00
2,640 sleepers at 20 cents, - -	528 00
36,582 feet scantling, 6 inches by 6, at $22 per thousand, - -	1483 50
46 tons iron, at $50, - -	2300 00
1,936 lbs spikes, at 9 cents, -	174 24
1,400 splicing plates, at 3 cents, -	42 30
320 rods workmanship, at $4 50,	1440 00
1 road crossing, - - -	20 00
2 farm crossings, - - -	16 00
Removing earth and grading,	100 00
1 sliding, - - - - -	354 06
	$6918 20
Multiplied by 153, - - -	$1,058,484 60
Grading and masonry, as above,	440,228 40
	$1,498,713 00
Add 10 per cent. for contingencies, salaries of engineers, superintendants, &c. - -	149,873 30
	$1,648,584 30

or $10,775 06 per mile, for locomotive power.

This estimate is based upon the presumption that locomotive engines alone will be used, and that there will be no necessity for a horse-path. Should this, however, not be the case, the cost of the horse-path must be added. The following will then be the cost of the road:

Graduation and masonry, -	$440,228 40
Superstructure, as above, -	1,058,484 60
1280 perches broken stone, at $1, $1280 00	
Making horse-path, 200 00	
For one mile, $1480 00, by 153,	226,440 00
	$1,725,153 00
Add for contingencies, &c. as above, 10 per cent. -	172,515 30
Making the whole cost, including horse-path, - - -	$1,897,668 30

or $12,403 06 per mile.

I am, sir, very respectfully, your obedient servant,

HOWARD STANSBURY,
U. S. Assist. Civ. Engineer.

To Horatio G. Phillips, Esq. President of the Mad River and Lake Erie Railroad Company.

Estimated Cost of Grading and Masonry.

FIRST DIVISION.—From Sandusky City to Tiffin, on the east bank of Sandusky river, 35 miles, $73,711; or an average of 2,106 03 per m.

SECOND DIVISION.—From Tiffin to the north branch of Sciota river, 39 miles, $108,239 40; or an average per mile, $2,775 39.

THIRD DIVISION.—From north ridge of Sciota river, to the east branch of Mad River, near West Liberty, 32 miles, $119,149 70; or an average of per mile, 3,723 39.

FOURTH DIVISION.—From Mad River to Dayton, 47 miles, $139,127 30; or an average of per mile, 2,060 17.

Whole cost of grading and masonry from Sandusky City to Dayton, 153 miles, $440,228 31; or an average of per mile, $2,877 31.

Report of the Engineer in Chief to the Stockholders of the Ithaca and Owego Railroad Company.

The President and Directors of the Ithaca and Owego Railroad Company have the pleasure of submitting to the stockholders the subjoined report of the Engineer in Chief.

We deem it unnecessary to enter into a detail of the location and progress of the work, as that will appear in the full and ample developement of the Engineer in his report herewith submitted, in which we have entire confidence; but will confine ourselves to a few observations on the present and future prospects of the road, to which the stockholders look for a remuneration of their investments in the stock of the company. On this subject we have full confidence in the assurance, that if the calculations for the future can be regulated by the experience of the past, they are flattering.

The importance of a communication by canal or railroad by this route, from the waters and country of the north and west, with the

Susquehanna on the south, has been a subject of much calculation and speculation for several years past, and efforts for its completion have engaged the attention of the commercial portion of our community.

This communication will be effected in the completion of your railroad, and defies all competition by any other route, it being the most direct, least expensive, and shortest portage between the navigible waters of New-York and Pennsylvania.

The head of the inclined planes is 517 feet above the Cayuga Lake; thence running to Owego with an undulation of 21·12 feet per mile, considered equivalent to a level, through the Beaver Meadow, where the waters divide and flow north to the Gulf of St. Lawrence, and south to the Chesapeake Bay. On the streams thus formed along the line are 33 mills, and the immediate vicinity furnishes an abundant supply of timber.

From accurate calculations by the best informed merchants and carriers in the villages of Ithaca and Owego, we have derived the following statement:

The transportation from Ithaca for the year 1828 was, in exports, 10,678 tons; imports, 7,929 do.; total, 18,607 tons. For the year 1831, exports, 31,631 tons; imports, 11,525 do.; total, 43,156 tons.

Should we take the ratio of those years for the year 1834, when your road will be completed and in full operation, we could safely calculate the amount at 76,800 tons, equal to 320 tons a day. We have, however, after a moderate and careful review, concluded to present the following as a fair estimate of the amount of tonnage that will pass the railroad in the year 1834: Merchandise, 2,000 tons; wheat and flour, 5,000; pork, butter, and whiskey, 2,000; ashes, 1,000; plaster, 10,000; salt, 5,000; lime and stone, 1,000; lumber, 7,500; miscellaneous; 1,000; total, 34,500 tons.

In this estimate of tonnage, the article of coal has not been included. The rapid extirpation of wood in the improvement of the country, particularly along the line of the canal, has already enhanced its price, and could coal be obtained at a fair and reasonable rate, it would supercede the use of wood altogether, and enable the farmer to turn his reserved wood-land into arable, and thus increase his crops for market. The salt works alone would consume an immense amount; wood is now sold there for $2 per cord; and coal could be afforded there for $5 per ton, one ton of coal being equal to four cords of wood; thus making a saving of $3 in every four cords of wood. We might, therefore, rate the tonnage of coal higher, but shall estimate it at 8,000 tons.

When the Chenango Canal shall have been finished, we must expect a competition in the article of anthracite coal; but in the bituminous, from Towanda, a few miles below Tioga Point, there can be none. The distance from Carbondale, in the region of the anthracite coal beds, by the way of the Chenango canal, through Utica, to the salt works at Syracuse, will be 214 miles, with the canal duty from Chenango Point, heavy lockage and slow progress: the summit near Oriskany or Utica being 730 feet above the canal, and 320 above the Susquehannah at Chenango Point, giving 950 of lockage, and will require 119 locks of 8 feet lift, which at ten minutes' time (including delay) in passage, will be 1190 minutes. This being converted into distance at the rate of three miles per hour, or 20 minutes per mile, will, so far as time and wages are concerned, be equivalent to an extension of the canal a distance of 59½ miles.

From the same point, (Carbondale,) by the way of the Ithaca and Owego Railroad, Cayuga Lake and Canal, to Syracuse, it is 193 miles; the passage made from Owego to the Cayuga Bridge in eight hours.

Bituminous coal will always be in great demand: for cupola furnaces, however, anthracite is chosen; but for reverberatory furnaces, forges, smithies, family use, and the boiling of salt, the bituminous will be preferred, as it makes a more brilliant fire, the flame spreading its heat more readily around.

The Towanda iron ore and coal beds are 36 miles south of Owego, thence to Ithaca 29½ miles, from Ithaca to Cayuga Bridge 36 miles, (lake navigation free of toll,) thence to Syracuse, canal navigation by Montezuma, 42 miles; in the whole 143 miles.

The transportation from Towanda to Owego will be on the navigable waters of the Susquehanna. Steamboats of a light draught of water, such as are at present navigating the Connecticut river, can be successfully used, and some gentlemen at Owego have made the necessary investigations, and contemplate putting on one or more boats in the coal trade. This would immediately give us a direct, easy, and cheap communication between those coal beds and the Erie Canal. The coal beds are inexhaustible, extending for miles westerly.

The bituminous coal beds lie south-west of Newtown, at Peter's Camp, at the head of the Tioga river, probably part of the same vein existing at Towanda, and are 40 miles from the head of the feeder of the Chemung canal, and about the same distance westwardly from Towanda, accessible through a broken and mountainous country. The route from the head of the feeder of the Chemung Canal to the head of the Seneca Lake is 36 miles long, thence including the length of the lake 40 miles, thence on the Seneca and Erie Canals to Syracuse, 57 miles, making in the whole 173 miles, and passing 61 locks. This lockage being converted into distance, as on the Chenango Canal, will give an extension equal to 30½ miles. The time required on our railroad to ascend the whole elevation will take but twenty minutes, equal to an extension of one mile.

Thus it will be perceived that, as far east as Syracuse, we can transport anthracite coal cheaper than they can by the way of the Chenango Canal; and bituminous, than can be done by the way of the Chemung, as much cheaper as we gain in time and distance. About 80 tons of Carbondale and Towanda coal have been sold in this village during a few days' sleighing, at the price of from $8 to $12 per ton, and ground plaster carried back as the return load. By railroad and steamboats it could be afforded at $4 per ton.

The three furnaces at this place, although not on a large scale, would consume 244 tons annually. We have confidence, therefore, in making the following statement of revenue for the year 1834: Merchandise, 34,500 tons; coal, 8,000 do.; total, 42,500 tons.

Admitting we transport half of this amount, at the rate of $2 per ton, which is from one to two dollars less than the usual price, $42,500; the other half by carriers paying toll only, $21,250; passengers that will concentrate and pass our road from north and south, 50 a day, at $1, 365 days, $18,250; country travel along the line of the road, 50 per day, at 50 cents, 365 days, $9,125.

Amount of revenue as per preceding statement - - - - - -	$91,125
The annual expenses of the road, at a liberal calculation - - - -	20,000
Leaving a revenue of - - - -	$71,125

The cost of the road will not exceed its capital, $300,000.

Although the above result is great, yet we must have confidence in its reasonableness, from our knowledge of facts and facilities upon which it is founded.

The salt manufactured at the Montezuma works can be reduced in price for the southern market, to the difference in the cost of distance of transportation between Syracuse and Montezuma, being 35 miles.

The plaster beds on the east bank of the Cayuga Lake, but thirty miles from Ithaca, are abundant.

Limestone, making the first quality of white lime, is inexhaustible on both sides of the lake, and there is a market for it south as far as Wilkesbarre, on the Susquehanna, 150 miles; none of good quality being found in the intermediate region. There are also at Springport, on the east bank of the Cayuga Lake, inexhaustible beds of water limestone of the best quality, the lime from which we are now using in the construction of our culverts.

Lime, therefore, will be an important source of revenue, as well as coal, salt, and plaster. The sum of $71,125, which is a fraction over 23 per cent. n tt on the capital, would therefore be the immediate amount of revenue on the completion of the road: and it is an important consideration, that the amount of revenue which the company may receive is not limited by the charter. But in extending our views to the future business of the road, we must calculate upon its increase from Lake Ontario, 70 miles north of Ithaca, by a channel or route crossing the canal at Montezuma, which is 18 miles from Sodus Bay, through a country abounding with iron ore. Besides, our road must be considered as an important link in the great connexion between Buffalo, the mart of the western states, and Philadelphia, Baltimore, and New-York. This presents its value in a most interesting light.

We found the above calculation also on the fact that simultaneously, and without concert, a line of communication with New-York is in preparation. A charter has been granted for a railroad from the termination of our road on the north to Geneva, and one from Geneva to Canandaigua, leaving but 90 miles to connect us with Buffalo, and thus unite the navigable waters of the Susquehanna with Lake Erie.

The distance from the Erie Canal at Montezuma to Sodus Bay is 18 miles, which bay on Lake Ontario is 90 miles nearer the city of New-York by this route than any other. It has long been contemplated, and actual movements and reconnaissances are making, to connect Lake Ontario with the Erie Canal at Montezuma by a canal, which it is believed also will drain the Cayuga marshes (the fall from those marshes to that lake being 138 feet) more effectually than any other mode, which ought to be a great inducement with the state to contribute liberally towards its completion.

The distance from the city of New-York to Ithaca is 210 miles, 17 of which, through a part of New-Jersey, is already traversed by the Paterson Railroad, which would, without doubt, be carried up to the state line, leaving from the southern termination of our road about 150 miles to be completed by the great New-York and Erie Railroad Company, (our road now embracing one-seventh of the whole distance) to connect New-York with the Erie Canal navigation by the Cayuga Lake.

The distance from Owego, the southern termination of our railroad, to the northern termination of the contemplated Lackawanna and Susquehanna Railroad, is 35 miles; and if the Hudson and Delaware Company would construct the road through Pennsylvania, the distance above stated would soon be passed by a connected road, the stock for which would readily be subscribed, and the company would then have a greater market to the north by our railroad and the Chenango Canal, than they now possess by the Hudson.

In the present state of things, without reference to future improvements, the Ithaca and Owego Railroad must of necessity take a large portion of the trade along our lake and the Erie Canal, when repeated experiments shall show its advantages by the diminished expense of transportation.

The navigation of the Susquehanna is at least four weeks earlier in the spring than the eastern sections, and two weeks earlier than the western section of the Erie Canal. Advantage has been taken of this knowledge by some of our merchants, in getting to an early market, and produce has been sent from this village to Baltimore, there sold, goods have been purchased in New-York with the avails, shipped to Albany, and have been forwarded by the first boats on the opening of the canal.

	Plaster, per ton.	Salt, per bbl.
The total cost and transportation of Cayuga plaster and salt, from Ithaca to Harrisburgh, on the Susquehanna and our railroad, will be - - -	$5,94	$1,94
The cost of foreign plaster and salt at Philadelphia, and transportation to Harrisburgh - - -	7,75	2,25
Difference	1,81	31

	Flour, per bbl.	Whiskey, or Pork, pr bbl.
The total expense of transportation of flour, pork, and whiskey, from Ithaca, passing Baltimore to New-York or Boston, by our railroad and the Susquehanna river - - -	70	1,23
Do. by way of Erie Canal from Ithaca to New-York	81	1,50
Difference in favor of Railroad	11	27

So far as we have progressed in the construction of the road, we have been influenced by the limitation of our capital, and economical considerations, and have left the question as to the use of stone or wood to depend upon the convenience and cost of obtaining those materials, considering a durable and imperishable road at ten per cent. increase of cost the cheapest. In all works of this kind great prices are demanded and paid at the commencement, produced by the conviction that the work must progress, and that the article wanted is the only one that at the moment can be procured. Some purchases of timber were made from 12 to 14 dollars a thousand feet, board measure, which we can now obtain at 10 or 11 dollars.

Stone rails, which it was supposed we could only procure from the limestone ledges along the shore of the Cayuga Lake, at $3 per perch, (16½ cubic feet,) we can now procure along the line of road at 75 cents, in some of the quarries opened for the building of culverts and viaducts.

Some embarrassments occurred last summer in the financial concerns of the company, arising from misrepresentations and misconceptions, upon which a few stockholders in New-York were induced to refuse payment upon the calls of the company. The President, Treasurer, Secretary, and Engineer, repaired to New-York with the books, maps, and vouchers, and made a full and ample exposition of the concerns and affairs of the company, with which those stockholders were satisfied. The report of a committee expressing that satisfaction, and calculating large profits upon a basis of expense much greater than is now ascertained to be necessary to make the road, is herewith annexed. The work has not, however, stopped, and for the advance of that portion of stock due, we have been sustained by our Treasurer and friends in Albany.

At the last election of Directors held in February, those gentlemen in New-York, who held 542 shares of stock, were represented by their proxy, who also represented 411 shares held in Owego; and those gentlemen holding 1807 shares, residing in Albany, Utica, and Ithaca, were there in person or by proxy. All united in the election of the present Directors, thereby evincing a unity of action favorable to the advancement and prosperity of the work.

All of which is respectfully submitted. By order of the Board of Directors.

FRANCIS A. BLOODGOOD, President.

Ithaca, March 14, 1833.

RAILROADS.—The railroad, the working of which has just commenced between Stonington, Conn. and Providence, R. I. forms an important part of the route between Boston and New-York. The distance of the entire line of railroad, when connected at Providence with the present line, will be about 80 miles. The public generally are not aware that a Long-Island railroad of *less than one hundred miles* might reduce the time of travelling between Boston and New-York to about twelve hours, thereby obviating the hazard of passing Long-Island Sound, and of the lines of steamboats.

It is less than one hundred miles from Brooklyn ferry to Greenport, formerly called Sterling, in the town of Southold. Greenport has a fine harbor, situated between Shelter Island and the main Island, and has good depth of water—easy of access—never troubled with ice. There is already a considerable village, where two whaling ships are annually fitted out, and many smaller vessels are owned and employed.

It is probable the railroad between Brooklyn and Jamaica will be made the next season, embracing 12 miles of the proposed route. The remaining distance to Greenport is over a level country, having many facilities for constructing a cheap railroad. A steamboat could pass between Greenport and Stonington in 2 hours, during the whole year.

We have no doubt that many persons who have occasion to travel between New-York and Boston, would at this time take the route through Long-Island, were they aware of the fact that lines of stages pass *three times a week* between Brooklyn and Sag-Harbor, and that three fine packets are passing *every day* between Sag-Harbor and New-London.—[L. Island Star.]

EXCAVATION FOR THE RAILWAY.—The excavation which is now about being made in a hill in Lowell, for the bed of the contemplated railway, may be considered, next to the various manufacturing establishments, the most wonderful "Lion" of the place. This hill is near the *terminus* of the railway, in the neighborhood of the Brewery, but not in a populous part of the town. It consists of a *ledge* of rock, which is about three hundred yards in length, and the average depth of the excavation is about forty feet. It is thirty feet wide at the bottom, and sixty at the top, and the masses of stone which have already been riven from the ledge by blasting, seem to be immense.

A contract was originally made with a person to effect a sufficient passage through this hill for the sum of seventy-two thousand dollars. He commenced the undertaking, employed sixty workmen for about four months, *and failed*. Another person then undertook to finish the work for the same amount—but after a few months, he also abandoned the undertaking. Those individuals are said to have both been acquainted with the nature of the business which they undertook—but they were deceived by the quality of the rock, which consists principally of gneiss and mica, through which, although much lighter and softer than limestone or granite, it was found much more difficult and expensive to effect a passage, than if it was composed of those more solid materials. The *drilling* may not be so difficult, but the rocks lying in numerous horizontal strata almost defy the power of gunpowder, and heavy, blasts which would shiver an immense mass of granite, are frequently found here to produce but little effect. In addition to this, the ledge is found to be full of springs of water, which sometimes render it necessary for the workmen to expend much time, and exercise no inconsiderable ingenuity, in counteracting its effects. There are also found in the lower part of the ledge, huge masses of quartz, and a species of rock composed almost entirely of hornblende, which is of course almost impenetrable to the drill.

The "Locks and Canal Company" have now undertaken to complete this work, at the expense of the Railroad Company. About seventy men are constantly employed, and the work advances as rapidly as the attending circumstances will allow. Seven hundred kegs of powder have been used in blasting since the latter part of April, when the work was recommenced. About fifty kegs are used every week. This powder is manufactured at Mr. Oliver M. Whipple's mills, situated about a mile from the centre of the town. About one-third of the work is already executed, and it is expected that in the course of the next season this stupendous undertaking will be completed.—[Lowell Journal.]

ALLEGHENY PORTAGE RAILROAD.—A late Ebensburg Spy contains the following encouraging notice of a portion of the railroad over the Allegheny:

"We have lately viewed that part of the Allegheny Portage Railroad which lies between Croyle's Mills and the borough of Conemaugh, and were much pleased with its appearance. It would be worth a three days' ride to see the manner in which skill, industry and science, aided by money, have overcome the difficulties which presented themselves, and broke through the obstructions which nature had thrown in the way, in that rough and rugged section of the country.

"A few miles below Croyle's Mills the Conemaugh river bends to the South, and after traversing a sinuous course of more than three miles, is again seen across a narrow hill at the distance of about three hundred feet from its place of departure. At this point the road is cut through the hill and carried over the river on a viaduct supported on a strong and neatly built semicircle stone arch of eighty feet span, rising from abutments at the height of 20 feet above the river. The whole distance from the water to the arch being sixty feet. The arch is now complete and the centres removed. It presents a grand and bold appearance, and seems capable of resisting any thing short of the concussions of an earthquake. This work does credit to the Engineer who planned it, and to the worthy contractors, Snodgrass and Dunro, who constructed it.

"The viaduct is connected with a hill at the west end by an immense embankment, some parts of which are seventy feet in height.

"The vicinity of this viaduct will be ere long the site of extensive water-works. The whole stream, which is considerable, can be conveyed through the Hog-back hill, by a deep cut or a short tunnel, and thus gain a fall of more than forty feet.

"A few miles below the viaduct the road passes through a tunnel, nine hundred feet in length, the greater part of which has been excavated out of a solid rock. Abut one hundred feet at each end of the tunnel is handsomely arched with cut stone, and the entrances will be ornamented with columns of the same.

"Many of the rails are laid upon this section of the road which we visited, and preparations for laying the residue are in rapid progress. This is the case, we are informed, on the whole line of the Portage, and the prospect of traversing the whole course from Hollidaysburg Conemaugh, during the present season, is now very certain."

LIVERPOOL AND MANCHESTER RAILWAY.—The half yearly meeting of the proprietors of this company was held on Wednesday, the 24th of July; Richard Harrison in the chair. A report of the proceedings of the company, from the 1st of January to the 30th of June, was read by the treasurer, Mr. Booth, which appeared to give satisfaction to those assembled.

The quantity of merchandize conveyed between Liverpool and Manchester, during that period, was 68,285 tons—to different parts of the road, 8,712 tons—quantity between Liverpool, Bolton, and Manchester, 19,461 tons. Total quantity moved along the line, 94,458 tons.

Total quantity of coal from various parts of the line, 42,721 tons—total number of passengers booked in the company's office, 171,421.

The number of trips of 30 miles performed by the locomotive engines, with passengers, 3,282—with goods, 2,244. Total, 5,506.

Half Year's Receipts.—Coaching department, £44,130 17 2—General merchandize, £39,301 17 3—Coal department, £2,638 15 9. Total receipts, £86,071 10 2—Total expenses, £52,900 9 1. Profit, £33,171 1 1. Which allows a dividend of four guineas per shar

leaving a few hundred pounds in bank. In the expenses of the half year the sum paid for the purchase of two new engines is included. A considerable saving is expected to take place by the recent application of brass tubes in the engines, in lieu of copper tubes previously used, that were almost continually bursting. Mr. Dixon (a gentleman in service of the company) has the merit of this important suggestion. The new tunnel is in rapid progress, about one-fifth of it being already completed.--[Balt. paper.]

Sea-Serpent Harpoon. By MECHANICUS.

To the Editor of the Mechanics' Magazine.

SIR,—In these days of inventions and of sea-serpents, I deem it meritorious to contrive something for the destruction of such ugly looking monsters as have lately furnished such wonderment to the good people *down east*. Now, sir, if any of your readers should ever take a *notion* to go either whaling or *sea-serpenting*, I would advise them to be provided with some half dozen of the *machines* of which I send you the drawings.

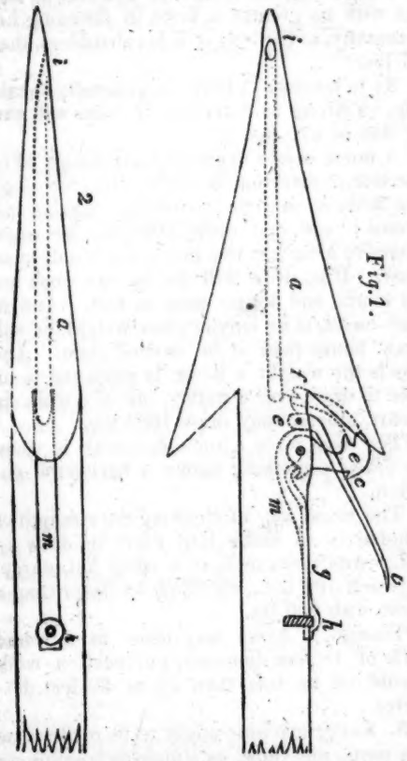


Fig. 1 is a harpoon with two barbs, and may be of any convenient size and length; *a* is a cavity drilled in from *i*, (which may be done with the point bent,) a little beyond the root of the barbs at *f*; a groove is cut in the shank under one of the barbs as shown at *m*, Figs. 1 and 2; in this groove is fitted the cock *e*, the main spring *g*, fastened by its screw *h*, and under the barb, at *f*, a percussion pin, or head, which communicates with the cavity *a*. A trigger with two prongs, between which the cock works, is set into two sockets at *o*, one on each side of the groove *m*, and fastened by a screw-pin, as shown in the figure; the trigger has a small hole in it, just above the space for the cock, for the point *c* to slip into to hold the cock back.

Now for the operation. A small charge of powder is put into the cavity, and over this a proper quantity of some poisonous substance, the effects of which shall be powerful and rapid; a percussion cap is put on the head, and the instrument is then cocked, as shown at Fig. 1. The consequence of plunging such an instrument into a soft or fleshy substance must be obvious to any one, for as the flesh closes over the barb it strikes the end of the trigger at *b*, and throws the point of it down behind the head of the screw *h*, and by the consequent explosion of the powder the poison is forced into the body from the orifice *i*, and produces death at the same time that it fastens the object.

Now, sir, as I am the inventor, all I can say in praise of the invention is, that I should not like to be harpooned with such a machine. MECHANICUS.

THE PROGRESS OF INVENTION EXEMPLIFIED.—Many volumes have been written on the gradual refinements of language, and learned men have pointed out the immense stride in improvement which has arisen from an unimportant innovation, yet millions had spoken the imperfect language without dreaming of the simple means by which the finishing touches could be given to it. The effects also which have flowed from apparently the most simple contrivances are almost incredible; and should those who are familiar with their most perfect forms be but casual observers, they may be startled at the exaggerated terms in which their value may be estimated —or disgusted with the claims of some mechanic, who, by merely adding a wheel or pulley, or giving a trifling difference to their proportions, may, by these means, have been the first to make the machine efficient. The simple process of drawing a cork will furnish the necessary illustrations.

The inventor of bottles is unknown; but these were in use for centuries before corks were thought of, and these again were employed for generations before a convenient method was hit upon for their extraction. The exhilarating contents could then only be tasted by what is now technically called "beheading the bottle." More expert practitioners had many opportunities of shewing their skill in removing the impediment by a dexterous twist of the fingers;

or, if that were impracticable, teeth were called in as their natural auxiliaries; here, however, in many cases, it was doubtful whether the cork would follow the teeth, or the teeth remain *in* the cork; and if an obstinate remnant would remain, a *nail* was a ready means of dislodging the stubborn plug, particle by particle,—when at any time, through an impatience of the nibbling labor, or a despair of accomplishing a clean extraction at all, it was resolved at once to send the obstacle the wrong way: this was then, indeed, an invaluable instrument. A pair of skewers, or forks, inserted "witchwise," would sometimes accomplish those difficult cases which had baffled the exertions of all the naturals. Twisting the lower extremity of the "bare bodkin" into a spiral form, and adding a handle to it, was the thought of a master genius; and, in this shape, mankind, for ages, were contented to avail themselves of its services—and even at the present hour, some barbarous, uncouth countries and districts may be named where it is still the extractor in most general use. In our civilized land, it must be yet in the recollection of many, that this was, in numerous cases, a very inefficient machine; and the pleasure of beholding the generous beverage beaming through a crust of many years, was cruelly damped by the experience, that in proportion to the pains taken in fixing the cork, was the mental agony which must be endured during all attempts to remove it. Jovial fellows, who forget those days, in their moments of inspiration, may talk indeed of their Phillises, their Ianthes, their Delias, their Saccharissas, their Chloes, and their what-nots,—let them henceforth mingle a little gratitude with their admiration, and glorify a nymph greater than them all. Miss O'Rourke, like her own exquisite potteen punch, was a delightful compound from ingredients, both mental and corporeal, of the most opposite nature. The friend of Kosciusko, and the authoress of the Rhapsody, which afterwards rung so often throughout the country to the favorite tune (Gramachree) of the patriot Pole,—such another hostess was not in England wide, and no other of her order ever conferred so great a benefit on bottle-suckers as she did, by her superlative invention of placing a *button* at the end of the screw-worm. Henceforth the decantering process was a mere matter of routine. When, in her green old age, Death laid his hand on the inventress, a piratical screw-maker took to himself the credit and profit of the button addendum. Yet Miss O'Rourke shall never be forgotten, even although her master-piece, some few years later, was eclipsed, and may be yet superceded by the *King's Screw*, which can receive no addition either to its beauty or convenience, except it be probably some little steam appendage to make it self-acting.—[Stuart.]

CINNAMON STONE.—M. Laugier has found the massive cinnamon stone of Ceylon to be composed of silex 38, lime 33, alumine 19, ox. iron 7. He regards it as a silicate of lime and alumine, with an accidental portion of iron.—[Bull. Univ.]

ALBURNUM.—Mr. Knight has asserted, in the Philosophical Transactions that having partially detached strips of bark of the walnut tree, of several inches' length, from the alburnum, in the spring, he introduced beneath such bark two folds of paper, each of which was coated on both sides with bees' wax; so that such strips of bark were placed wholly out of contact with the alburnum, or other bark of the tree, except at their upper ends. Air and light were excluded by a covering of clay till autumn, when as much alburnum was deposited upon the paper, along the whole extent of the bark, as was deposited by a similar extent of bark, which retained its natural place and state.—[Loudon's Magazine.]

Office of the Delaware and Hudson Canal Company.

Honesdale, Wednesday, August 28, 1833.

Received at Honesdale, from Carbondale, by Rail Road, during one week, ending this day, 1712 R. R. wagons, containing 4,280 tons coal.

Total amount of coal received since 13th April, 68,077½ tons.

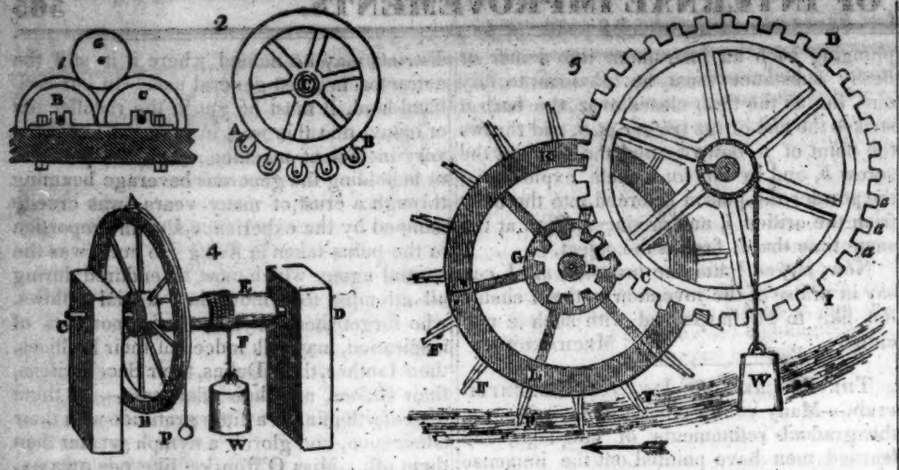
Also received during the week, 117 Rail Road wagons, containing 171,87 feet lumber.

Total amount of lumber received since 13 April, 3,091,261 ft.

Arrived at Honesdale from Rondout during the week, 176 boats, containing general freight.

Cleared at Honesdale for Rondout, during the week, 168 boats, containing 4,040 tons coal.

Total amount of coal cleared at Honesdale for Rondout since 25th April, 60,270 tons. J. B. WALTON, Collector.



To contrive a Proper Machine that shall move a Given Weight with a Given Power, or, with a Given Quantity of Force, shall overcome any other Given Resistance. [From Emerson's Principles of Mechanics.]

If the given power is not able to overcome the given resistance, when directly applied, that is, when the power applied is less than the weight or resistance given, then the thing is to be performed by the help of a machine made with *levers, wheels, pullies, screws*, &c., so adjusted, that when the weight and power are put in motion on the machine, the velocity of the power may be at least so much greater than that of the weight, as the weight and friction of the machine, taken together, is greater than the power. For on this principle depends the mechanism or contrivance of mechanical engines, used to draw or raise heavy bodies, or overcome any other force. The whole design of these being to give such a velocity to the power in respect of the weight, as that the momentum of the power may exceed the momentum of the weight. For, if machines are so contrived that the velocities of the agent and resistant are reciprocally as their forces, the agent will just sustain the resistant; but, with a greater degree of velocity, will overcome it. So that, if the excess of velocity in the power is so great as to overcome all that resistance which commonly arises from the friction or attrition of contiguous bodies, as they slide by one another, or from the cohesion of bodies that are to be separated, or from the weights of bodies to be raised, the excess of the force remaining, after all these resistances are overcome, will produce an acceleration of motion proportional thereto, as well in the parts of the machine, as in the resisting body. Now, how a machine may be contrived to perform this to the best advantage will appear from the following rules:

1. Having assigned the proportion of your power and the weight to be raised, the next thing is to consider how to combine levers, wheels, pullies, &c., so that, working together, they may be able to give a velocity to the power, which shall be, to that of the weight, something greater than in the proportion of the weight to the power. This done, you must estimate your quantity of friction, by the last prop.; and if the velocity of the power be to that of the weight still in a greater proportion than the weight and friction taken together is to the power, then your machine will be able to raise the weight. And note, this proportion must be so much greater, as you would have your engine work faster.

2. But the proportion of the velocity of the power and weight must not be made too great neither. For it is a fault to give a machine too much power, as well as too little; for if the power can raise the weight, and overcome the resistance, and the engine perform its proper effect in a convenient time, and works well, it is sufficient for the end proposed. And it is in vain to make more additions to the engine, to increase the power any further; for that would not only be a needless expense, but the engine would lose time in working.

3. As to the power applied to work the engine, it may be either a living power, as men, horses, &c., or an artificial power, as a spring, &c., or a natural power, as wind, water, fire, weights, &c.

When the quantity of the power is known, it matters not, as to the effect, what kind of power it is. For the same quantity of any sort will produce the same effect; and different sorts of powers may be applied, in an equal quantity, a great variety of ways.

The most easy power applied to a machine is weight, if it be capable of effecting the thing designed. If not, then wind, water, &c., if that can conveniently be had, and without much expense.

A spring is also a convenient moving power for several machines; but it never acts equally, as a weight does; but is stronger, when much bent, than when but a little bent, and that in proportion to the degree of bending, or the distance it is forced to. But springs grow weaker by often bending, or remaining long bent; yet they recover part of their strength by lying unbent.

The natural powers, wind and water, may be applied with vast advantage to the working of great engines, when managed with skill and judgment. The due application of these has much abridged the labors of men; for there is scarce any labor to be performed, but an ingenious artificer can tell how to apply these powers to execute his design, and answer his purpose. For any constant motion being given, it may, by a due application, be made to produce any other motions we desire. Therefore, these powers are the most easy and useful, and of the greatest benefit to mankind. Besides, they cost nothing, nor require any repetition or renewing, like a weight or a spring, which require to be wound up. When these cannot be had, or cannot serve our end, we have recourse to some living power, as men, horses, &c.

4. Men may apply their strength several ways, in working a machine. A man of ordinary strength, turning a roller by the handle, can act for a whole day against a resistance equal to 30 lbs. weight; and, if he works ten hours in a day, he will raise a weight of 30 lbs. 3½ feet in a second; or, if the weight be greater, he will raise it so much less in proportion. But a man may act, for a small time, against a resistance of 50 lbs., or more.

If two men work at a windlass, or roller, they can more easily draw up 70 lbs. than one man can 30 lbs., provided the elbow of one of the handles be at right angles to that of the other. And, with a fly or heavy wheel applied to it, a man may do one-third part more work, and, for a little while, act with a force, or overcome a continual resistance, of 80 lbs., and work a whole day when the resistance is but 40 lbs.

Men used to carrying, such as porters, will carry, some 150 lbs., others 200 or 250 lbs., according to their strength.

A man can draw about 70 or 80 lbs. horizontally; for he can but apply about half his weight.

If the weight of a man be 140 lbs. he can act with no greater a force in thrusting horizontally, at the height of his shoulders, than 27 lbs.

As to horses: A horse is, generally speaking, as strong as five men. A horse will carry 240 or 270 lbs.

A horse draws to greatest advantage when the line of direction is a little elevated above the horizon, and the power acts against his breast; and can draw 200 lbs. for eight hours in a day, at two miles and a half in an hour. If he draw 240 lbs. he can work but six hours, and not go quite so fast. And, in both cases, if he carries some weight, he will draw better than if he carried none. And this is the weight a horse is supposed to be able to draw over a pulley, out of a well. In a cart, a horse may draw 1000 lbs.

The most force a horse can exert is when he draws something above a horizontal position,

The worst way of applying the strength of a horse is to make him carry or draw up hill. And three men, in a steep hill, carrying each 100 lbs., will climb up faster than a horse with 300 lbs.

Though a horse may draw in a round walk of 18 feet diameter, yet such a walk should not be less than 25 or 30 feet diameter.

5. Every machine ought to be made of as few parts, and those as simple as possible, to answer its purpose; not only because the expense of making and repairing will be less, but it will also be less liable to any disorder. And it is needless to do a thing with many, which may be done with fewer parts.

6. If a weight is to be raised but a very little way, the lever is the most simple, easy, and ready machine. Or if the weight be very great, the common screw is most proper. But if the weight is to be raised a great way, the wheel and axle is a proper power, and blocks and pullies are easier still; and the same may be done by the help of the perpetual screw.

Great wheels, to be wrought by men or cattle, are of most use and convenience when their axles are perpendicular to the horizon; but if by water, &c., then it is best to have their axles horizontal.

7. As to the combination of simple machines together, to make a compound one; though the lever, when simple, cannot raise

a weight to any great height, and, in this case, is of little service, yet it is of great use when compounded with others. Thus, the spokes of a great wheel are all levers, perpetually acting; and a beam fixed to the axis to draw the wheel about by men or horses, is a lever. The lever, also, may be combined with the screw, but not conveniently with pullies, or with the wedge. The wheel and axle is combined with great advantage with pullies. The screw is not well combined with pullies; but the perpetual screw, combined with the wheel, is very serviceable. The wedge cannot be combined with any other mechanical power, and it only performs its effect by percussion; but this force of percussion may be increased by engines.

Pullies may be combined with pullies, and wheels with wheels; therefore, if any single wheel would be too large, and take up too much room, it may be divided into two or three more wheels and trundles, or wheels and pinions, as in clock-work, so as to have the same power, and perform the same effect.

In wheels with teeth, the number of teeth that play together in two wheels ought to be prime to each other, that the same teeth may not meet at every revolution. For, when different teeth meet, they by degrees wear themselves into a proper figure; therefore they should be contrived that the same teeth meet as seldom as possible.

8. The strength of every part of the machine ought to be made proportional to the stress it is to bear; and, therefore, let every lever be made so much stronger, as its length and the weight it is to support is greater. And let its strength diminish proportionally from the fulcrum, or point, where the greatest stress is, to each end. The axles of wheels and pullies must be so much stronger, as they are to bear greater weight. The teeth of wheels, and the wheels themselves, which act with greater force, must be proportionally stronger; and in any combination of wheels and axles, make their strength diminish gradually from the weight to the power, so that the strength of every part be reciprocally as the velocity it has. The strength of ropes must be according to their tension, and that is as the squares of their diameters. And, in general, whatever parts a machine is composed of, the strength of every particular part of it must be adjusted to the stress upon it. Therefore, in square beams, the cubes of the diameters must be made proportional to the stress they bear. And let no part be stronger or bigger than is necessary for the stress upon it; not only for the ease and well-going of the machine, but for the diminishing the friction. For all superfluous matter, in any part of it, is nothing but a dead weight upon the machine, and serves for nothing but to clog its motion. And he is by no means a perfect mechanic, that does not only adjust the strength to the stress, but also contrive all the parts to last equally well, that the whole machine may fail together.

9. To avoid friction as much as possible, the machine ought not to have any unnecessary motions, or useless parts; for a multiplicity of parts, by their weight and motion, increase the friction. The diameter of the wheels and pullies ought to be large, and the diameters of the arbors or spindles they run on as small as can be consistent with their strength. All ropes and cords must be as pliable as possible, and for that end are rubbed with tar or grease; the teeth of wheels must be made to fit and fill up the openings, and cut in the form of epicycloids. All the axles, where the motion is, and all teeth where they work, and all parts that, in working, rub upon one another, must be made smooth; and, when the machine goes, must be oiled or greased. If a joint is to go pretty stiff and steady, rub a little grease upon it.

The axis *a* (fig. 1) of a wheel may have its friction diminished, by causing it to run on two rollers, B C, turning round with it, upon two centres.

Likewise, instead of the teeth of wheels, one may place little wheels, as A B, (fig. 2,) running upon an axis in its centre. And this will take away almost all the friction of the teeth. And, in lanterns or trundles, the rounds may be made to turn about, instead of being fixed.

In all machines with wheels, the axles or spindles ought not to shake, which they will do if they be too short; and their ends ought just to fill their holes.

When the teeth of a wheel are much worn away, it makes that wheel move irregularly about, increases the friction, and requires more force, and may cause the teeth of two wheels to run foul upon one another, and to stop their motion, and endanger breaking the teeth. To prevent this, proper care should be taken to dress the teeth, and keep them to their proper figure.

10. When any motion is to be long continued, contrive the power to move or act always one way, if it can be done. For this is better and easier performed than when the motion is interrupted, and the power is forced to move, first one way and then another, because every new change of motion requires a new additional force to effect it. Besides, a body in motion cannot suddenly receive a contrary motion, without great violence; and the moving any part of the machine contrary ways by turns, with sudden jerks, tends only to shake the machine to pieces.

11. In a machine that moves always one way, endeavor to have the motion uniform.

12. But when the nature of the thing requires that a motion is to be suddenly communicated to a body, or suddenly stopped, to prevent any damage or violence to the engine by a sudden jolt, let the force act against some spring, or beam of wood, which may supply the place of a spring.

13. In regard to the size of the machine, let it be made as large as it can conveniently. The greater the machine, the exacter it will work, and perform all its motions the better. For there will always be some errors in the making, as well as in the materials, and, consequently, in the working of the machine. The resistance of the medium in some machines has a sensible effect. But all these mechanical errors bear a less proportion to the motion of the machine in great machines than in little ones, being nearly reciprocally as their diameters, supposing they are made of the same matter, and with the same accuracy, and are equally well finished. Therefore, in a small machine, they are more sensible, but in a great one almost vanish. Therefore, great machines will answer better than smaller, in all respects except in strength; for the greater the machine the weaker it is, and less able to resist any violence.

14. For engines that go by water, it is necessary to measure the velocity and force of the water. To get the velocity, drop in pieces of sticks, &c., and observe how far they are carried in a second, or any given time.

But if it flow through a hole in a reservoir, or standing receptacle of water, the velocity will be found from the depth of the hole below the surface.

Thus, let $s = 16\frac{1}{12}$ *fe t*, v = velocity of the fluid per second. B = the area of the hole. H = height of the water; all in feet. Then the velocity $v = \sqrt{2sH}$; and its force = the weight of the quantity $\frac{vv}{2s}$ B or HB of water, or $= \frac{62\frac{1}{2}}{112}$ HB hundred weight; because a cubic foot is $= 62\frac{1}{2}$ lbs. avoirdupois. Also, a hogshead is about $8\frac{1}{4}$ feet, or 531 lbs. and a tun is four hogsheads.

When you have but a small quantity of water, you must contrive it to fall as high as you can, to have the greater velocity, and, consequently, more force upon the engine.

15. If water is to be conveyed through pipes to a great distance, and the descent be but small, so much larger pipes must be used, because the water will come slow. And these pipes ought not to be made straighter in some places than others; for the quantity of water conveyed through them depends upon the bigness of the bore at the straightest place.

Pipes of conduct coming directly from an engine, should be made of iron, with flanches at the ends to screw them together, with lead between, or else of wood; for lead pipes will bulge out at every stroke of the engine, and burst; but pipes next a jet must be lead. Pipes should not turn off at an angle, but gradually in a curve; pipes of elm will last twenty or thirty years in the ground; but they must be laid so deep that the frost may not reach them, or else the water must be let out, otherwise the frost will split them.

The thickness of any pipe must be as the diameter of the bore, and also as the depth from the spring. For a lead pipe of 6 inches bore, and 60 or 70 feet high, the thickness must be half an inch; and in wooden pipes, 2 inches.

Water should not be driven through pipes faster than four feet per second, by reason of the friction of the tubes. Nor should it be much wire-drawn, that is, squeezed through smaller pipes; for that creates a resistance, as the water-way is less in narrow pipes.

And in pump work, where water is conveyed through pipes to higher places, the bores of the pipes should not be made too straight upwards, for the straighter they are near the top, the less water will be discharged; nor should the pipe that brings the water into the pump be too straight, for the same reason. The wider these are, the easier the pump works.

When pipes are wind bound, that is, when air is lodged in them that the water can hardly pass, it must be discharged thus: Going from the spring till you come to the first rising of the ground, dig it open till the pipe be laid bare; then, with a nail driven into it at the highest part, or rather a little beyond, make a hole in the top, and all the air will blow out at the hole, and when the water comes, batter up the hole again. Do the same at every eminence, and all the air will be discharged. If the water runs fast through the pipes, the air will be beyond the eminence; but stopping the water, the air will ascend to the highest part. If air be driven in, at first, along with the water, the nail-hole must be left open, or a cock placed there to

open occasionally. Sometimes a small leaden pipe is placed over the other, communicating with it in several places, in which is a cock at top, to open upon occasion.

16. When any work is to be performed by a water-wheel moved by the water running under it, and striking the paddles or laddle boards, (fig. 3,) the channel it moves in ought to be something wider than the hole of the adjutage, and so close to the floats on every side, as to let little or no water pass; and when past the wheel, to open a little, that the water may spread. It is of no advantage to have a great number of floats or paddles, for those past the perpendicular are resisted by the back water, and those before it are struck obliquely. The greatest effect that such a wheel can perform, in communicating any motion, is when the paddles of the wheel move with $\frac{1}{2}$ the velocity of the water; in which case, the force upon the paddles is $\frac{4}{9}$ only, supposing the absolute force of the water against the paddles, when the wheel stands still, to be 1. So that the utmost motion which the wheel can generate, is but $\frac{1}{2}$ of that which the force of the water against the paddles at rest would produce. This is when the wheel is at the best; but, oftentimes, far less is done.

Machines to raise water, when well made, seldom lose less than $\frac{1}{3}$ the computed quantity of water to be raised. The best contrived engine is scarce $\frac{1}{3}$ part better than the worst contrived engine, when they are equally well executed.

A man with the best water engine cannot raise above one hogshead of water in a minute, 10 feet high, to work all day.

17. When a weight is to be raised with a given corporeal power, by means of the wheel and axle, so that the weight may receive the greatest motion possible in a given time, the radius of the wheel and axle, and the weight to be raised, ought to be so adjusted, that the radius of the axle (EF): (fig. 4) may be to the radius of the wheel (AB): : as $\frac{2}{3}$ the power (P): to the weight to be raised (W): or, which comes to the same thing, the velocity gained by the power in descending must be $\frac{2}{3}$ of the velocity which would be gained by gravity in the same time.

This only holds good when the power is a heavy body, as well as the weight; but does not take place when the power is some immaterial active force, such as that of an elastic medium, the strength of a spring, &c., whose weight is inconsiderable.

18. *These principles, also, are very useful and necessary to be known, where water-works are concerned.*

The pressure of the atmosphere upon a square inch is 14.7 lbs. *avoird.* at a medium.

The weight of a column of water, equal to the weight of the atmosphere, is $11\frac{1}{4}$ *yards.*

A cubic foot of water weighs $62\frac{1}{2}$ lbs. *avoir.* and contains 6,128 *ale gallons.*

An ale gallon of water contains 282 *inches,* and weighs 10.2 lbs. *avoird.*

A tun of water, ale measure, weighs 1.1 *tun avoird.*, at 63 gallons the hogshead.

A cylinder of water a yard high, and *d* inches in diameter, contains $\frac{1}{10}$ *dd ale gallons,* and weighs $\frac{1}{13}$ *dd pounds avoird.*

Statistics of Connecticut.—The following article, from the Hartford Times, shows that the people of Connecticut must have pretty easy times. This freedom from taxation does not however always increase that patriotism which leads the people to take a deep interest in the affairs of their government.

Through the attention of the comptroller of public accounts, we have been furnished with the following highly interesting statistics. It would be both gratifying and useful, would some one or more individuals in each state furnish similar tables. There certainly can be no great difficulty in obtaining them, and the labor that they might cost would be more than compensated by the information they would afford.

Statistics of Connecticut for the year 1832.

The following is a brief abstract of the various subjects of taxation, as returned by the assessors, for March, 1832:

45,852	dwelling houses, valued	$21,948,740
2,622,676	acres of land	50,782,455
1,572	mills	843,511
1,826	stores	146,784
283	distilleries	54,052
1,521	manufactories	1,637,149
25	quarries	38,350
183	fisheries	98,625
1	ferry	200
34,250	horses, &c.	1,290,694
237,989	neat cattle	3,347,667
271,625	sheep	333,657
	Silver plate	10,614
5,196	riding carriages	238,797
22,893	clocks and watches	174,843
	Bank stocks, state banks	3,143,736
	Do. United States Bank	17,880
	Insurance stock	53,642
	Turnpike do.	157,362
	Money at interest	2,087,976
	Three folds	17,679
	Assessments	147,683
	Polls	689,315
		$88,592,388

Of receipts and disbursements.

There was received at the treasury during the year ending the 31st of March, 1833—

Viz. From interest on U. S. three per cents.	$1,382	
Tax on non-resident owners of bank stock	2,817	
Avails of State Prison	5,000	
Dividend of bank stock owned by the state	25,670	
Fines and miscellaneous receipts	7,448	
State tax	37,984	
		80,302

The disbursements were—

Viz. For ordinary expenses of government	60,852	
For public buildings and institutions	10,774	
		71,626

Of the expenses of government.

The population of the state by the last census was 297,711, and the ordinary expense of the government was $60,852; being a proportionate expense of twenty cents and a half for each inhabitant. But the state, during this time, received $28,053 interest on her three per cent. stock and dividends on bank stock; $12,446 from the state prison, forfeitures, fines, &c. and $2,817 for taxes on bank stock owned by non-residents; all amounting to $42,316; which being deducted from the ordinary expenses of government, left the sum of $18,536 to be paid from direct taxes.

This balance of $18,536 would require a contribution by each inhabitant of the state of less than six cents and three mills, and a tax less than three tenths of a mill on each dollar of valuation and assessment returned by the assessor.

Of the School Fund.

The whole capital of this fund, productive and unproductive, was reported by the commissioner in 1832, to be $1,902,957 87. The interest arising from it is irrevocably dedicated by the constitution to the support of primary schools, and by law is apportioned to them, according to the ratio of persons between four and sixteen years of age belonging to the respective school societies. The whole number of those persons in 1832 was 86,252; and the amount of interest distributed for that year was $81,939 40, being ninety-five cents for each of those persons, and equal to 28 cents for every inhabitant. Thus, while the state was distributing for the benefit of schools a sum equal to 28 cents for each person in it, the ordinary expenses of the government required of them only a ratio of contribution less than 6 cents and 3 mills.

Lime necessary for Wheat.—It is an opinion very generally acquiesced in, that wheat will not succeed on lands that are entirely destitute of this earth. In most agricultural districts that are not calcareous, a small quantity of lime is in various ways carried upon the soil by bones, shells, emptyings of white-wash tubs, &c. Those farmers who use leached ashes, lime their soil with the lime in the ashes. We give the following from "*Anderson's Recreations,*" a work highly esteemed in Europe:

"I had a field of good arable land, a mellow loam in Aberdeenshire, which had been long in culture, often dressed with animal and vegetable manures, and was of course endowed with a considerable degree of fertility; but being full of weeds, it was subjected to a thorough summer fallow in order to get rid of these, and bring it to a proper tilth in other respects; and as lime is found to be an active manure in that district, it had a moderate dressing of lime put upon it, and some dung at the same time. The whole field was sown with wheat at the proper season, which sprang up equally thick on every part of it. For some time no difference was perceivable in the appearance of the crop over the whole; by and by it was observed that the wheat on a small portion of the field, which by accident had no lime put upon it, became pale and sickly. While the crop in other parts of the field advanced luxuriantly, it dwindled in this particular patch more and more, till towards the beginning of May the whole had died quite out, and not one stalk of wheat was to be found upon it, though the weeds in consequence of the richness of the soil at that time grew there with extreme luxuriance. Perhaps the proportion of calcareous matter did not in this case amount to more than one-thousandth part of the whole, yet the qualities of this soil were thereby totally altered, inasmuch that though before the application of that dressing the soil was incapable of producing wheat at all, it was found at all times after that period well adapted for the raising of that crop. Nature had formed many soils with a similar proportion of calcareous matter, blended imperceptibly in them over large districts of land.

Notes on Mildew, from a Lecture on that Subject, by Professor Lindley, delivered at the Horticultural Society's Meeting Room, on the 24th of April. By J. W. L. [From Loudon's Gardener's Magazine.]

Dr. Lindley began by stating that he did not intend, on the present occasion, to give a regular series of lectures, as that plan required his hearers to attend the whole course, which very few individuals had leisure to do. He, therefore, now proposed to take a different subject for every lecture, and to make each complete in itself. His first subject was mildew.

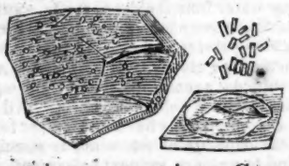
Every horticulturist has heard of mildew; and, though it is often confounded with blight, honey-dew, &c., the destructive fungi which constitute the real mildew, and the ravages they occasion, are unfortunately but too familiar to every one accustomed to either a garden or a field. Notwithstanding this, even the most eminent horticulturists know comparatively little either of the nature of this pest, or of its cure. One most important error exists respecting it, and this is the belief, common among gardeners and agricul-

turists, that one kind of mildew will infect several kinds of plants: but this can never be the case; each tribe of plants has a mildew peculiar to itself, which cannot, under any circumstances, affect plants of a different kind.

Mildew generally appears on the leaves or stems of plants in the form of red, white, or black spots, as a number of minute projections, as a frosty incrustation, or as a brownish powder; in every case spreading, more or less rapidly, according to its kind, and in its progress withering the leaves, destroying the fruit, and, finally, killing the plant. The popular reasons assigned for this pest are various; it has been ascribed to insects, fog, and even, in one agricultural report, to the inflammation of the oxygen gas in the air towards the end of summer, which scorched the leaves. These opinions have, however, been all proved to be erroneous. Mildew is nothing more than different kinds of fungi, or parasites, attacking different kinds of plants, and varying in appearance and species according to the nature of the plants which they attack. It is the greatest enemy to the agriculturist, but the gardener also suffers from it severely.

The fungi, commonly called mildew, are divided into three classes: 1. Those which grow, or rather lie, on the surface of leaves, and which, perhaps, do not derive any nutriment from the plant; 2. Those which are formed in the interior of the stem or leaf, and protrude themselves from it when ripe; and, 3. Those which only attack the roots. All are extremely simple in their organization, and very minute in their forms; they seldom appear but in autumn, except in forcing-houses.

The first class, or mildew composed of those fungi that live on the surface of leaves, injure a plant by preventing its respiration, but do not appear to draw any nourishment from it. One of the most common of the fungi which attack the common cabbage is



Cylindrosporium concentricum *Grev.* These very destructive fungi have the appearance of small white patches, or specks, of frosty incrustation, which, when magnified, are found to consist of a number of small cylinders, lying end to end, or across each other. These cylinders are all filled with seed, and burst when it is ripe, scattering it in every direction; wherever it falls upon the leaf it takes root, and thus the fungus spreads rapidly. The superficial mildew which attacks rose trees and many other flowering shrubs is a kind of Uredo. This name, derived from *uro*, Lat., to burn or scorch, is applied to those occasional discolorations of the surfaces of plants which were formerly attributed to blights, or injuries from the atmosphere, and which have the appearance of a brown powder. Uredo effusa *Grev.* generally shows

itself on the under sides of the leaves of the Rosaceæ, and spreads rapidly. Uredo Rosæ *Pers.* is another kind, which also attacks rose trees. The fungus called Acrosporium monilioides consists of a number of globules,

attached to each other, which, when magnified, appear like the beads of a necklace, and in many cases are found standing upright. When ripe, these globules fall, and, taking root, form fresh strings, or necklaces, like the first. Sometimes little tufts of these globules appear fixed to stalks; and, from some fancied resemblance to the brushes used for sprinkling holy water, are called

Aspergillus. The superficial mildew which infects the onion, and is very fatal to that plant, is called Botrytis. Its name signifies a bunch of grapes; and it is thus called from a fancied resemblance between that fruit and its clusters of little globular seeds and seed-vessels. The bean and pea have a superficial mildew, (Uredo Fabæ *Pers.*) which

spreads along their leaves, like white roots curiously interlaced. From these roots spring a number of branch-like shoots, each bearing a ball-like head, or brown berry, which, when ripe, bursts, and discharges seed.

The second class of fungi, viz. those which spring from the interior of leaves, and stems, are by far the most fatal. These fungi generally appear in a sort of bag, or case, which is supposed to be formed of the cuticle of the affected leaf. The oak is attacked by a species of fungus, Æcidium, different varieties of which are found on many kinds of forest trees. The Æcidium Pini, found on pine trees, has, when magnified, the appearance of a number of nine-pins. When ripe, the cuticle which covers the fungus bursts, and emits a powder of a bright orange color, which is the seed. A mildew of this kind, which infects corn, is highly injurious to the farmer. It is vulgarly called the pepper brand; and, when corn is attacked by it, it gradually consumes the substance of the grain, leaving in its stead only a dark powder, which has a very offensive smell. This fungus is found only on barley, and in this respect differs from the Uredo Segetum, or smut, which is destructive not only of barley, but also of wheat and oats. The Uredo Segetum, or smut, has been the subject of many interesting experiments by Mr. Bauer, of Kew, whose discoveries will, no doubt, throw very considerable light upon the subject. It not only destroys the grain, which it converts into a kind of jelly, but it attacks the leaves and stems, always forming in the interior of the plant, and bursting forth when ripe. Corn is also attacked by a species of Puccinia, a very fatal kind of fungus, which always appears divided into cells. Puccinia Graminis, which attacks corn, forms in the

interior of the stalk, and, when ripe, bursts forth in clusters, like bunches of grapes, of a dark brown color. Puccinia Rosæ *Grev.*

appears on the leaves of rose trees, in little brown tufts, which, when opened and magnified, are found divided into extremely minute cells. A correspondent of this magazine mentions that his celery was infected with ferruginous spots, occasioned, no doubt, by the Puccinia Heraclei Grev.; and another correspondent, Mr. Robert Errington, gives a detailed account of the manner in which his celery was attacked by the same disease, and of the means which he adopted for its cure. He describes his celery as having the appearance of having been scorched by fire. He says he dug up the infected plants, and buried them, but this only seemed to increase the evil; and he tried several other remedies, but without any permanent success.

[*To be continued.*]

CANAL TOLLS.—It is very gratifying to find our flourishing state making such handsome monthly summings up, as the following, from the Albany Argus.

The canal tolls received in the month of July amount to the sum of $147,899—exceeding, by $42,282 02, the sum collected in the corresponding month last year. The following is a comparison of the tolls for July on all the canals of the state, for 1832 and 1833, to wit;

Canal.	1833.	1832.	Increase since 1832.
Erie,.....	$125,488 04	$91,747 57	$33,740 47
Champlain,.....	17,293 94	11,112 23	6,181 71
Cayuga & Seneca,	2,084 63	1,890 03	194 60
Oswego,.....	3,032 72	1,867 48	2,165 24
	$147,899 33	$106,617 31	$42,282 02

The receipts for tolls to the close of July are greater, by *one hundred thousand five hundred and twenty-two dollars and ninety-eight cents*, than they were for the same period last year. Some estimate of the great increase of business upon the canals may be formed from the fact, that the diminution in the rates of toll, operating upon the articles which were transported upon the canals in 1832, would probably diminish the aggregate amount of tolls $150,000, for the whole season. At the diminished rates of toll, such has been the increase of articles transported, that in three months and eight days the aggregate amount exceeds that of the corresponding months of last year, by the sum of more than *one hundred thousand dollars.*

NEW-YORK AMERICAN.

AUGUST 31, SEPTEMBER 2, 3, 4, 5, 6—1833.

LITERARY NOTICES.

ON THE IMPROVEMENT OF SOCIETY BY THE DIFFUSION OF USEFUL KNOWLEDGE, &c. &c., by THOMAS DICK, LL. D.—forming Vol. LIX. of *Harpers' Family Library*, New-York.—In the preface to this book we learn that it was prepared for the press nearly twenty years ago, but that other literary undertakings of the author prevented its appearance then. If it had been published at that time—anterior, as it was in a great degree, to the various admirable works which, in every department of knowledge, and adapted to all understandings, are now daily put forth under the impulse of an enlightened and generous zeal for the diffusion of knowledge—it would have been pronounced, we do not hesitate to say, one of the most original as well as valuable and attractive volumes ever written. As it is, losing only in part the claim of originality, it retains its value and usefulness undiminished. All the improvements and discoveries in modern science, which could serve as illustrations of the main design, have been embodied in the work as it now appears, and we cordially recommend it to all readers. It is written in so good a style, the topics, even when bordering on abstruse science, are treated so clearly, and in such popular language—avoiding always the use of merely technical terms—as to be quite intelligible to every one of ordinary understanding.

Knowledge in this country—we cannot help repeating it again and again—is not only important for the immediate advantages it confers upon its possessor—but for the indirect but omnipotent influence which it must exercise upon our free institutions.—These repose, and must, in the nature of things, repose, for their stability and purity, upon the knowledge and virtue, (which, as a general proposition, may be said always to go hand in hand), of the people. An educated people cannot be enslaved. But not only does knowledge tend to preserve freedom, but to embellish it. It strips it at once of the connection, which its enemies so willingly impute to it, with vulgar license, jacobinism, sans-culotteism. It compels those who would obtain influence among the people to respect themselves. It cuts short the ascendancy of demagogues, who, with the praises of the people always on their lips, insult them on all agitating questions, by one sided appeals to their passions, and partial and distorted statements of the truth. Hence, we say again, that in free America, more even than elsewhere, is the universal diffusion of knowledge to be aimed at by all lovers of their country. Would that the means and mode of effecting this great object, were as obvious as its importance. But these will be found—it cannot be doubted—whenever the public mind shall be resolutely turned to the subject. Meanwhile we observe with pleasure that *Dr. Dick* promises a volume upon this very topic—*the means of diffusing useful knowledge among all classes.* We shall look eagerly for it.

We present some extracts. First, we have this picture of a man living in the world without seeking to understand aught that is passing around him:

His views are chiefly confined to the objects immediately around him, and to the daily avocations in which he is employed. His knowledge of society is circumscribed within the limits of his parish, and his views of the world in which he dwells are confined within the range of the country in which he resides, or of the blue hills which skirt his horizon. Of the aspects of the globe in other countries—of the various tribes with which they are peopled—of the seas and rivers, continents and islands which diversify the landscape of the earth—of the numerous orders of animated beings which people the ocean, the atmosphere, and the land,—of the revolutions of nations, and the events which have taken place in the history of the world, he has almost as little conception as the animals that range the forest, or bound through the lawns. In regard to the boundless regions that lie beyond him in the firmament, and the bodies that roll there in magnificent grandeur, he has the most confused and inaccurate ideas; and he seldom troubles himself with inquiries in relation to such subjects. Whether the stars be great or small, whether they be near us or at a distance, or whether they move or stand still, is to him a matter of trivial importance. If the sun give him light by day, and the moon by night, and the clouds distil their watery treasures upon his parched fields, he is contented, and leaves all such inquiries and investigations to those who have little else to engage their attention. He views the canopy of heaven as merely a ceiling to our earthly habitation, and the starry orbs as only so many luminous studs or tapers to diversify its aspect, and to afford a glimmering light to the benighted traveller. Of the discoveries which have been made in the physical sciences in ages past, of the wonders of creation which they have unfolded to view, of the instruments which have been invented for exploring the universe, and of the improvements which are now going forward in every department of science and art, and the prospects they are opening to our view, he is almost as entirely ignorant as if he had been fixed under the frozen pole, or chained to the surface of a distant planet. He considers learning as consisting chiefly in the knowledge of grammar, Greek and Latin; and philosophy and astronomy as the arts of telling fortunes and predicting the state of the weather; and experimental chymistry, as allied to the arts of magic and necromancy. He has no idea of the manner in which the understanding may be enlightened and expanded, he has no relish for intellectual pursuits, and no conception of the pleasures they afford; and he sets no value on knowledge but in so far as it may tend to increase his riches and his sensual gratifications. He has no desire for making improvements in his trade or domestic arrangements, and gives no countenance to those useful inventions and public improvements which are devised by others. He sets himself against evey innovation, whether religious, political, mechanical, or agricultural, and is determined to abide by the "good old customs" of his forefathers, however irrational or absurd. Were it dependent upon him, the moral world would stand still, as the material world was supposed to do in former times; all useful inventions and improvements would cease, existing evils would never be remedied, ignorance and superstition would universally prevail, the human mind would be arrested in its progress to perfection, and man would never arrive at the true dignity of his intellectual nature.

Contrasted with this is the following fine description of the resources and employments of that mind which seeks to fulfil its high destinies by questioning the Universe.

Sitting at his fireside, during the blasts of winter, he can survey the numerous tribes of mankind scattered over the various climates of the earth, and entertain himself with views of their manners, customs, religion, laws, trade, manufactures, marriage ceremonies, civil and ecclesiastical governments, arts, sciences, cities, towns, and villages, and the animals peculiar to every region. In his rural walks he can not only appreciate the beneficence of Nature, and the beauties and harmonies of the vegetable kingdom, in their exterior aspect, but can also penetrate in the hidden processes which are going on in the roots, trunks, and leaves of plants and flowers, and contemplate the numerous vessels through which the sap is flowing from their roots through the trunks and branches, the millions of pores through which their odoriferous effluvia exhale, their fine and delicate texture, their microscopical beauties, their orders, genera, and species, and their uses in the economy of nature.

With the help of his microscope, he can enter into a world unknown to the ignorant, and altogether invisible to the unassisted eye. In every plant and flower which adorn thes field, in every leaf of the forest, in the seeds, prickles, and down of all vegetables, he perceives beauties and harmonies, and exquisite contrivances, of which, without this instrument, he could have formed no conception. In every scale of a haddock he perceives a beautiful piece of net-work, admirably contrived and arranged, and in the scale of a sole a still more diversified structure, which no art could imitate, terminated with pointed spikes, and formed with admirable regularity. Where nothing but a speck of *mouldiness* appears to the naked eye, he beholds *a forest of mushrooms* with long stalks, and with leaves and blossoms distinctly visible. In the eyes of a common fly, where others can see only too small protuberances, he perceives several thousands of beautiful transparent globes, excellently rounded, and polished, placed with the utmost regularity in rows, crossing each other like a kind of lattice-work, and forming the most admirable piece of mechanism which the eye can contemplate. The small dust that covers the wings of moths and butterflies he perceives to consist of an infinite multitude of feathers of various forms, not much unlike the feathers of birds, and adorned with the most bright and vivid colors. In an animal so small that the naked eye can scarcely distinguish it as a visible point, he perceives a head, mouth, eyes, legs, joints, bristles, hair, and other animal parts and functions, as nicely formed and adjusted, and endowed with as much vivacity, agility, and intelligence, as the larger animals. In the tail of a small fish, or the foot of a frog, he can perceive the variegated branchings of the veins and arteries, and the blood circulating through them with amazing velocity. In a drop of stagnant water he perceives thousands of living beings, of various shapes and sizes, beautifully formed, and swimming with wanton vivacity like fishes in the midst of the ocean. In short, by this instrument he perceives that the whole earth is full of animation, and that there is not a single tree, plant, or flower, and scarcely a drop of water, that is not teeming with life, and peopled with its peculiar inhabitants. He thus enters, as it were, into a new world, invisible to other eyes, where every object in the animal, vegetable, and mineral kingdoms presents a new and interesting aspect, and unfolds beauties, harmonies, contrasts, and exquisite contrivances, altogether inconceivable by the ignorant and unreflecting mind.

In the invisible atmosphere which surrounds him, where other minds discern nothing but an immense blank, he beholds an assemblage of wonders, and a striking scene of Divine Wisdom and Omnipotence. He views this invisible agent not only as a *material* but as a *compound* substance—compounded of two opposite principles, the one the source of flame and animal life, and the other destructive to both, and producing by their different combinations, the most diversified and beneficent effects. He perceives the atmosphere, as the agent under the Almighty, which produces the germination and growth of plants, and all the beauties of the vegetable creation—which preserves water in a liquid state—supports fire and flame, and produces animal heat, which sustains the clouds, and gives buoyancy to the feathered tribes—which is the cause of winds—the vehicle of smells—the medium of sounds—the source of all the pleasures we derive from the harmonies of music—the cause of that universal light and splendour which is diffused around us, and of the advantages we derive from the morning and evening twilight. In short, he contemplates it as the prime mover in a variety of machines,—as impelling ships across the ocean, blowing our furnaces, grinding our corn, raising water from the deepest pits, extinguishing fires, setting power-looms in motion, propelling steamboats along rivers and canals, raising balloons to the region of the clouds, and performing a thousand other benificent agencies without which our globe would cease to be a habitable world. All which views and contemplations have an evident tendency to enlarge the capacity of the mind, to stimulate its faculties, and to produce rational enjoyment.

Again,—the man of knowledge, even when shrouded in darkness, and in solitude, where other minds could find no enjoyment, can entertain himself with the most sublime contemplations. He can trace the huge globe on which we stand flying through the depths of space, carrying along with its vast population, at the rate of sixty thousand miles every hour, and, by the inclination of its axis, bringing about the alternate succession of summer and winter, spring and harvest. By the aid of his telescope he can transport himself towards the moon, and survey the circular plains, the deep caverns, the conical hills, the lofty peaks, the shadows of the hills and vales, and the rugged and romantic mountain scenery which diversify the surface of this orb of night. By the help of the same instrument he can range through the planetary system, wing his way through the regions of space along with the swiftest orbs, and trace many of the physical aspects and revolutions which have a relation to distant worlds. He can transport himself to the planet Saturn, and behold a stupendous ring, 600,000 miles in circumference, revolving in majestic grandeur every ten hours around a globe nine hundred times larger than the earth, while seven moons, larger than ours, along with an innumerable host of stars, display their radiance, to adorn the firmament of that magnificent world. He can wing his flight to the still more distant regions of the universe, leaving the sun and all his planets behind him, till they appear like a scarcely discernible speck in creation, and contemplate thousands and millions of stars and starry systems,

beyond the range of the unassisted eye, and wander among suns and worlds dispersed throughout the boundless dimensions of space. He can fill up, in his imagination, those blanks which astronomy has never directly explored, and conceive thousands of systems and ten thousands of worlds, beyond all that is visible by the optic tube, stretching out to infinity on every hand,—new creations incessantly starting into existence—peopled with intelligences of various orders, and all under the superintendence and government of the "King Eternal, Immortal, and Invisible," whose power is ommpotent, and the limits of his dominions past finding out.

It is evident that a mind capable of such excursions and contemplations as I have now supposed, must experience enjoyments infinitely superior to those of the individual whose soul is enveloped in intellectual darkness.

THE AMERICAN COAST PILOT, *12th Edition*, by EDMUND M. BLUNT.—For nearly forty years a single individual, unaided, if not indeed repulsed and checked by that department of the general government most interested in the success of his labors, has carried on with constant improvements in each successive edition, the useful, elaborate, and expensive publication, named at the head of this notice. At the end of this period, with a constitution broken by exposure and fatigue, and with a fortune, as he himself expresses it, "literally cast upon the waters," Mr. Edmund M. Blunt retires from the superintendence of the work. In doing so, he expresses his warm acknowledgments to our shipmasters and others, whose "march is on the mountain wave," for their encouragement of him. He enumerates also officers in the British, French, Spanish, Danish and Dutch service, from whom he has received valuable and important information, most handsomely furnished; but from the Navy Department of the United States, to which, of all others, he had a right to look for aid and countenance, he received neither. This Mr. Blunt does not state; but surprised to find no allusion to that department in the course of his general acknowledgments in so many quarters, we asked an explanation, and it was as we state.—The publication will be continued as heretofore by the very capable sons of Mr. Blunt, who are emulating their father's skill and accuracy as Hydrographers.

MEMOIR OF ZERAH COLBURN, written by himself. *Springfield:* G. & C. MERRIAM.—This is the dull memoir of one, who, beginning as a prodigy, leaves off as a person of very ordinary understanding. We well remember the wonderful boy, and our own incredulity almost, even after witnessing the results of his instinctive calculations, of the possibility of such things. But infant *Rosciuses*, and boy calculators, seem reserved for the same mediocrity in middle life. It is however remarkable, we think, that the pains taken in London and Paris, with Zerah Colburn's education, by persons who hoped to mature the wonderful gift into some useful development, and the varied intercourse he had with the world, should have left so little trace as this memoir indicates.—The calculating boy is now, we believe, a worthy minister, and settled in Vermont, his native State.

THE AMERICAN MONTHLY MAGAZINE, Vol. II, No. I, for September.—We have observed this periodical from its commencement, and marked with increasing gratification the ability, taste, and excellent tone of its articles. Its aim obviously is to shine and not to glitter; to impress its readers by the solidity and sterling value of its contents, more than by superficial brilliancy. There is a vein of true classical literature running through its pages, which we unless recommends it very much to us; while it is sufficiently diversified with lighter reading to make it generally acceptable.

TALES OF ROMANCE, first series, by Tho's Moore, J. S. C. Hall, Crofton Croker, C. Lamb, Miss Mitford, and others. *Philadelphia:* KEY & BIDDLE. This is a club book under a new title, wherein various talents are to display their differing attractions. Some of the tales in this volume, which is prettily printed, have before appeared in print, and are of thrilling interest. "The Spanish Headsman" was republished in this paper. It is quite a readable collection.

THE EDINBURGH REVIEW, No. CXVI, from which we extracted, some days ago, the article on Mr. Rush's book, has several very good papers. At present we only notice that on the narrative of *Silvio Pellico*, a young Italian of genius and letters, imprisoned for ten years by order of the Emperor of Austria, for some political offence, in Lombardy—in order to introduce the character drawn of that Emperor—who is nevertheless called by his Austrian subjects "the good Franz"—and the eloquent and glowing description of the influence upon a generous mind of such a narrative as Pellico's.

The minds of kings are often kept by those about them in a thraldom more degrading even than the fetters of Spielberg. We spoil them, and then blame them for being spoiled. It is the curse of greatness to be attended by slaves, who not only take their humor for a warrant, but who studiously fence them in from the discipline and emotions, in which every one else obtains his best security for virtue. When Pellico and Maroncelli were released, they passed through Vienna on their way to Italy. They were taken by the commissary of Police, who had them in charge, to the gardens at Schonbrunn. The Emperor accidentally appeared. The loyal servant made them stand aside, lest his Imperial master should be saddened at the sight of their wasted persons! Have Metternich and the Aulic Chamber allowed him to be enlightened as well as saddened by the sight of these high minded and deeply affecting Memoirs? Does he know the merit, the goodness, the piety, of which he has been made the gaoler? Has he been enabled to measure the full extent of the barbarous injuries of which God will one day make himself the avenger? Are his dreams never haunted by the vision of the scholars and gentlemen of Italy, working in prison clothes in their Moravian dungeon,—bent down by chains under whose weight they are unable to walk, and the pressure of which will not let them sleep—sickening at the smell of food so uneatable that the famished cannot taste it—fainting under the indirect assassination of a sunless atmosphere, and a slow starvation—perishing from the heart's longings after friends to whom they may never write, after parents from whom and of whom they must never hear—supporting each other by manly and religious hopes against desperate temptations to self-destruction—the objects of silent and tremulous compassion to even the lowest ministers of abused justice,—to all, but to him, who alone had the power of relieving them?

The Emperor is one of those amiable sort of persons who pats children on the head when he meets them out a-walking, and who has established among his Austrian subjects a reputation for good-nature, which the ordinary kingcraft of generalized political ambition has not been thought sufficiently personal to belie. There is a stupid constitutional good-nature which is no more meritorious than the good-nature of a drunken man. The individual horrors of Spielberg are a different, and we fear a personal affair. The women of Vienna, who came round the carriages of Pellico and Maroncelli, told them to be of good cheer. 'Our Emperor is so good—he will 'never leave you long at Spielberg; we are sure 'our *Franz* will remember you.' If *Franz* did remember them at all, so much the worse for *Franz*. Politics are of course excluded from so ticklish a subject as the present volume, printed at the Turin press. There can be, however, only one impression left upon its readers; that is, that the Emperor does not want to read it to become acquainted with the worst part of its contents. The positiveness of the regulations by which the officers on the spot were frightened from the commonest acts of humanity, the constant reference to Vienna for the slightest mitigations which might be required by the necessities of a dying man,—such as permission to hear mass, or to have a leg cut off—special commissioners sent down to report upon the condition of the prison—occasional direct messages from the Emperor himself—all countenance the general belief that Spielberg was kept as a kind of State Menagerie which the Emperor personally superintended. If the Emperor has a heart, this is a book to break it. If he has a conscience, the best penance and reparation he now can make, is to throw open the prison doors of 'the Leads' of Venice (*di tanti che giacceamo!*) to set free as many of the hundred, as are still alive, whom Pellico left at San Michele; and to return the noble Confalonieri, Zucchi, and other Italian patriots, even now incarcerated at Spielberg, to their Italian home. It would redeem his character with the present and future ages, were he to consider further, how great is the presumption which disinterested martyrs raise in favor of their persecuted cause. Is there none to teach him that a government which once puts itself at issue with the rising intelligence and virtue of a nation stakes its temporary safety on a collision where victory is disgrace? Is there nobody who can elevate him high enough to feel that a land which is the mother of such spirits, must be worthy of a better fate?

It is so easy to be generous at the charge of others, that we all are patriots for former ages and in distant lands. While traversing the crisis of our Stuart-struggle, none is now so base, but that he finds himself in a jail with Hampden, pines away with Elliott in his prison chamber, and bows his neck upon the scaffold with Russell and with Sydney?—Had the sins of our fathers doomed us to be born in Italy, we often think what would have been our courage and our fate. Here, also, at least in imagination and feeling, we range ourselves, side by side, with her virtuous citizens, Steadfast to the cause of good governmeut and of truth, we follow the men, who, looking forwards to the independence of their country, and to the happiness of future generations, dared boldly to put to hazard all on earth belonging to themselves. They failed! In the wanderings of their exile, in the living sepulchre of their dungeons, what can we do but feel as if we were reading our own story in the persons of better men? Instead of this beautiful world which God has given us—instead of useful duties, interchanged affections, an enlarging sphere of brightening prospects—all the love, the promise, and the poetry of life—to what a crisis have they been called! Every thing lost in one fatal moment. Were we to live a thousand years, we should enter a prison walls with very altered feelings from those of a mere spectator, since we have kept company with Pellico. We have mounted with him on his chair and table, to peer down from the lattice-bars on the dome of St. Mark, the glittering cupolas, and the Lagune. We have clung with him to the grated windows for a glimpse of nature, and for something to look like the smile of God, while dawn was breaking over the Valley of Brunn upon his silent prayers. We have brooded with him through ten long years of a solitude so intense, that the step of the turnkey was a pleasure, the whisper of a neighboring prisoner a blessing, and the sound of an Italian air from a distant dungeon, an event. We have shared in all the fluctuations of the hopes and fears—in the spectral terrors of his nights, in the day dreams of his family affections: we thrilled with him at his glimpse of Gioja, at his chance embrace of Oroboni, and, above all, at his overflowing testimony to the nobleness with which human nature, when cold and forsaken in the hearts of kings and sycophants, yet vindicated its rights, in a thousand other bosoms, to our confidence and love Streams of moral lustre and heavenly charity broke in, and lightened the darkness most, where the monotony of selfishness, and the servile drudgery of a long acquaintance with, and ministry on the wretched, were most likely to have trodden out the germ of every tender feeling. The characters of the dumb boy, and of Maddalene at Malta, of Angiola at Venice, and of Schiller in Spielberg, belong to scenes, which, in honor of childhood, and of women, of the virtue which makes sentinels and turnkeys a thousand times nobler than the sovereigns whom they have the misfortune to represent, we pray never to forget.

SUMMARY.

Another packet ship bound to Natchez, (the Newark, Captain Brewer,) went to sea from this port on Thursday, with a cargo of merchandize valued at from 3 to 400,000 dollars. The St. Louis, which sailed on the 7th inst. for the same port, had a cargo of still greater value for that flourishing market.

[*From the Columbia Republican.*]

LIEUTENANT ALLEN'S MONUMENT.—This Monument, which is now completed, was erected by the citizens of Hudson to the memory of their late fellow citizen, Lt. Wm. H. Allen. It stands upon a commanding site at the northern extremity of the city cemetery. It is composed of a column of the Grecian Doric order elevated upon a pedestal and surmounted

by a sepulchral urn. The pedestal is a square in its plan, placed upon an elevation of three steps and slightly tapering in a pyrimidal form as it rises, and terminates with a beautiful and bold capital—supporting a plinth from which rises the fluted column in all the beauty and grace of the classic architecture of ancient Greece. The whole is surmounted with a chaste and beautiful urn, and presents at once an object of simplicity and chastened elegance, alike honorable to the city and those engaged in its execution. It is built of the purest white marble, in a masterly style, by Mr. Cyrus Darling of this city, after a design by Mr. J. H. Dakin of New York. Its whole height is 20 feet. Upon the pannels of the pedestal the following words are inscribed:

To the memory of
WILLIAM HOWARD ALLEN,
Lieutenant in the United States Navy,
who was killed in the act of boarding
a piratical vessel on the coast of
Cuba near Matanzas, on the
9th of November, 1822,
ÆT. 32.

WILLIAM HOWARD ALLEN,
His remains, first buried at Matanzas,
were removed to this city by the U. States
Government, and interred under the direction
of the Common Council of this city, beneath
this marble, erected to his honor by the
citizens of his native place.
1833.

WILLIAM HOWARD ALLEN,
was born in the city of Hudson, July 8th, 1790,
appointed Midshipman in 1801,
and a Lieutenant in 1811;
Took a conspicuous part in the engagement
between the Argus and Pelican in 1813,
and was killed while in command of the
United States Schooner Alligator.
Pride of his country's banded chivalry,
His fame the hope, his name their battle cry;
He lived as Mothers wish their sons to live,
He died as Fathers wish their sons to die.

The President of the United States has recognized Paul Pierre Thomasson de Lamassee as Vice Consul of France at Savannah, Georgia, and Charles Knorre, Esq. as Vice Consul of the free city of Hamburgh, for the City of Boston, and the State of Massachusetts.

A public dinner, without distinction of party, was given to *Governor Marcy*, on Monday last, at *Buffalo*.

MACON, GEORGIA, AUGUST 23d.—The first bale of New Cotton received in this place this season, came in yesterday from the plantation of Mr John Harvey, in Houston County, and was purchased at auction by Messers. T. L. & J. P. Smith, at 20 1-2 cents.

This bale was on its way to Savannah, by Capt. Blair's Boat, in a few hours after the purchase.

We do not give the above as a fair quotation of the market price. But we can say to the planter, that if his cotton was now in market, the prices paid for it in Charleston would warrant from 14 to 15 cents here, at which price it is probable the market will open.

Rum and Razors.—A countryman sent to his friend in the city for a barrel of rum, for family use—and received, in addition to the rum, a case of razors—with this significant remark in a letter—"*One is slow and sure—the other quick and certain.*"—[Gazette.]

Shipwreck.—The brig Pearl, Davis, hence for Franklin, La. with a full cargo of merchandize, was driven ashore on Body's Island, North Carolina, in a violent gale, on the night of the 24th inst. We are informed by Mr. Birdsall, one of the passengers, who had returned to this city, that the vessel will probably be lost. A small part of the cargo will be saved in a damaged state. The cargo was principally insured in this city. Vessel owned in New Haven. Passengers and crew safe.—[Jour. Com.]

HARTFORD CON. AUG. 31.—The splendid new Steamboat, New England, Capt. Waterman, arrived at the wharf last evening, at about half past six o'clock, having performed this, her first trip from New York to this city in twelve hours and a half.—The New England is superior to any Boat that has ever appeared on the river, in size, convenience, elegance and speed.

Cincinnati, Aug. 22.—We learn by a gentleman who left Louisville on Tuesday, that the steamboats *Reindeer*, and *Volant*, were burnt, or had been burning for five hours, when he left there. We understand they were laying at Shippingport or Portland. How they took fire we have not learned.

Destructive Fire at Troy.—At 5 o'clock on Saturday evening, a fire broke out in South-street, in the sash and blind factory of Prescot & Smith, originating from the furnace of the engine, which, with the buildings occupied by Smith & Gilbert, were laid in ashes. The loss of P. & S. is estimated at 5000 dollars, on which the Troy Insurance Company had 1600. The loss of E. & G. 10,000 dollars, and 10,000 was insured, 5000 in the Rensselaer and Saratoga Company, and 5000 in the Albany Insurance Company.

About 11 o'clock on Sunday evening, another fire broke out in Franklin-square, in the stables in the rear of Dorlon's Washington Hall; and by 2 o'clock the four noble brick tenements on River-street, were laid in ruins. The wind at the time was a gale from the N. W. but by great exertions, the flames were arrested at Mr. E. A. Sherman's building, which, however, was considerably damaged. Dorlon's loss is estimated at about 5000 dollars—insurance 2500. The three other buildings owned by Townsend M'Coun, were insured. The occupants, Silliman, Grant & Co. grocers and lumber merchants, lost considerable property, but were partly insured. E. & W. Carpenter, dry goods merchants, were insured 10,000 dollars, which probably covers their loss. The fourth tenement was occupied by Jared G. Bacon, draper and tailor, on the first floor—and the upper part by Kelly, as a boarding house. The amount of Mr. Bacon's loss is nearly 3000 dollars, insurance 2000. Mr Kelly's furniture mostly destroyed, no insurance. The owners of property in the building where the fire was stayed, were Mr E. A. Sherman, Mr. W. P. Haskin, and Messrs. T. & R. Mann, all of whom were insured. The amount of property destroyed by this conflagration is estimated at 25,000. The fire is supposed to have been communicated by incendiaries.

WASHINGTON, DEPARTMENT OF STATE,
31st Aug. 1833.

Notice is hereby given, that the Board of Commissioners appointed by the President to carry into effect the Convention between the United States and his Majesty, the King of the two Sicilies, concluded at Naples on the fourteenth day of October, one thousand eight hundred and thirty-two, will meet in this city on Wednesday, the eighteenth day of September next, agreeably to the provision of the 3d Section of the Act of Congress of the 2d of March, 1833, entitled "An Act to carry into effect the Convention between the United States and his Majesty, the King of the two Sicilies, concluded at Naples on the fourteenth day of October, one thousand eight hundred and thirty-two."

By the President of the United States of America.
A PROCLAMATION.

Whereas, a Convention between the Government of the United States of America, and his Majesty, the King of the Kingdom of the two Sicilies, to terminate the reclamations of said government for the depredations inflicted upon American Commerce, by Murat, during the years 1809, 1810, 1811, and 1812, was concluded and signed at Naples, on the fourteenth day of October, in the year of our Lord one thousand eight hundred and thirty-two; which Convention is word for word as follows:

Convention between the Government of the United States of America and his Majesty the King of the Kingdom of the two Sicilies, to terminate the reclamations of said government, for the depredations inflicted upon American Commerce by Murat, during the years 1809, 1810, 1811, and 1812—

The Government of the United States of America, and His Majesty the King of the Kingdom of the two Sicilies, desiring to terminate the reclamations advanced by said Government against his said Majesty, in order that the merchants of the United States may be indemnified for the losses inflicted upon them by Murat, by the depredations, seizures, confiscations and destruction of their vessels and cargoes, during the years 1809, 1810, 1811 and 1812, and his Sicilian Majesty desiring thereby to strengthen with the said government of the United States and his aforesaid Majesty the King of the Kingdom of the two Sicilies, have, with one accord, resolved to come to an adjustment; to effectuate which they have respectively named and furnished with the necessary powers, viz. the said Government of the United States. John Nelson, Esquire, a citizen of the said States, and their Charge d'Affaires near His Majesty the King of the Kingdom of the two Sicilies; and His Majesty His Excellency D. Antonio Maria Statello Prince of Cassaro Marquis of Spaccaforno Count Statello, &c. &c. &c., His said Majesty's Minister Secretary of State for Foreign Affairs, &c. &c. who after the exchange of their respective full powers found in good and due form, have agreed to the following articles:—

Article 1st.—His Majesty the King of the Kingdom of the two Sicilies, with a view to satisfy the aforesaid reclamations for the depredations, sequestrations, confiscations, and destruction of the vessels and cargoes of the merchants of the United States, (and for every expense of every kind whatsoever incident to or growing out of the same) inflicted by Murat during the year 1809, 1810, 1811, and 1812, obliges himself to pay the sum of two millions one hundred and fifteen thousand Neapolitan ducats to the government of the United States; seven thousand six hundred and seventy-nine ducats, part thereof, to be applied to re-imburse the said Government for the expense incurred by it, in the transportation of American seamen from the Kingdom of Naples, during the year 1810, and the residue to be distributed amongst the claimants by the said Government of the United States in such manner, and according to such rules as it may prescribe.

Article 2d.—The sum of two millions one hundred and fifteen thousand Neapolitan ducats agreed on in article the 1st, shall be paid in Naples, in nine equal instalments of two hundred and thirty-five thousand ducats and with interest thereon, at the rate of four per centum per annum, to be calculated from the date of the interchange of the ratification of the Convention, until the whole sum shall be paid. The first instalment shall be payable twelve months after the exchange of the said ratifications, and the remaining instalments, with the interest, successively, one year after another. The said payments shall be made in Naples into the hands of such person as shall be duly authorized by the Government of the United States to receive the same.

Article 3d.—The present Convention shall be ratified, and the ratifications thereof shall be exchanged in this capital, in the space of eight months from this date, or sooner if possible.

In faith whereof the parties above named have respectively subscribed these articles, and thereunto affixed their seals.

Done at Naples on the fourteenth day of October, one thousand eight hundred and thirty two.

JOHN NELSON. [L.S.]

And whereas the said Convention has been duly ratified on both parts, and the respective ratifications of the same were exchanged at Naples, on the eighth day of June, one thousand eight hundred and thirty-three, by Auguste Davezac, on the part of the United States, and the Prince of Cassaro on the part of the King of the kingdom of the two Sicilies.

Now therefore be it known, that I, Andrew Jackson, President of the United States, have caused the said Convention to be made public, to the end that the same and every clause and article thereof may be observed and fulfilled with good faith by the United States and the citizens thereof.

In witness whereof I have hereunto set my hand, and caused the seal of the United States to be affixed.

Done at the City of Washington, this twenty-seventh day of August, in the year of our Lord, one thousand eight hundred and thirty-three, and of the Independence of the United States, the fifty-eighth.

L.S.

ANDREW JACKSON.

By the President:
LOUIS MCLANE, Secretary of State.

IMPORTANT LAW.—We republish the following law. Its importance, however absurd it may be deemed—and we certainly so deem it ourselves—requires that as much publicity as possible should be given to it, as it goes into effect on the 29th of October next.

An act to prevent persons from transacting business under fictitious names—passed April 29, 1833.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

§ 1. No person shall hereafter transact business in the name of a partner not interested in his firm, and where the designation "and Company" or "& Co." is used, it shall represent an actual partner or partners.

§ 2. Any person offending against the provisions of this act, shall, upon conviction thereof, be deemed guilty of a misdemeanor, and be punished by a fine not exceeding one thousand dollars.

§ 3. This act shall be published by the Secretary of State immediately, and shall not take effect until six months after its passage.

State of New York, Secretary's Office.

This bill having been approved and signed by the Governor of this State on the 29th of April, 1833, I do hereby certify that the same became a law on that date.

JOHN A. DIX, Secretary.

FOREIGN INTELLIGENCE.

The packet ship *United States*, from Liverpool, brings us London papers to and of the 7th ult. Lisbon fell into the hands of Donna Maria's troops on the 24th July, after a battle on the preceding day on the opposite side of the Tagus, between the troops of Don Miguel and those of Donna Maria, in which the former were worsted. The next day the *Duke de Cadaval* and the rest of Don Miguel's ministers having abandoned Lisbon, the populace rose and proclaimed Donna Maria. *Villa Flor's* troops crossed over the same afternoon. Admiral Napier and his fleet arrived on the 25th, and all was tranquil under the new rule. Oporto had resisted a fierce attack of Marshal Bourmont; and the question, if left to Portuguese decision alone, may be considered as settled in favor of *Donna Maria*. We see nothing but rumor as to any interference by Spain—and nothing authentic respecting the transporting of troops from England to Portugal, though the London Exchange was all in agitation on the 6th because the Admiralty had advertised for *two transports of 300 tons each!*

The Spanish Ambassador at Lisbon, *Cordova*, was taken fighting with the Miguelites, and released unconditionally by the victors.

Miguel, it was surmised, would endeavour to escape to England. Other accounts are that he was off for Spain. At any rate he was non-apparent.

We give the following very characteristic extract of a letter from Mr. George Fitch, Lieutenant of the late schooner Eugenie, dated River Tagus, July 25:

"I write this on board what was formerly Don Miguel's yacht. I took her yesterday with this single arm and a musket and bayonet.

"A mob of 30 people released me from the infernal prison where I have been confined, with little food, for the last month. When I got into the street the people carried me on their shoulders, and wanted me to head them, which I did; their numbers were small, but I soon increased them by releasing all the prisoners. I then armed with broomsticks those who could get nothing better. I had myself a beautiful weapon, a crow-bar. We flew like fire, shouting 'Vive Donna Maria,' through the streets to Fort St. John, mounting 12 large guns. I killed the sentinel, and we forced the gates and took possession of the battery. I then felt like a god. I had 500 men at my command ready to shed the blood of tyranny. We loaded the guns, forced the arsenal and found 3,000 stand of arms, all new. There were many soldiers in the mob. I ordered them to form, and get into marching order, which they did, and I served out ball cartridge. We gave the command of the fort to an old officer, and telling him to keep a good look out, I marched through Lisbon with my army, and a band of music playing the Constitutional Hymn. The English Admiral fired a grand salute to our flag. The troops from the Algarves arrived on the opposite side of the river the day before the revolution, and had a very smart action. The Duke of Terceira came over yesterday at 2 o'clock, with 1,000 troops, and took possession of the city; he knew me the moment he saw me, and shook hands with me."

London, August 6.—City, half past four, the city never was in such a state of excitement, as at present. Government has just issued a notice for vessels to act as tenders for three months certain. An order has just been posted at Lloyd's, for two transports to be got ready immediately, to convey troops (it is said 3000) to Portugal, as it is supposed. It is said that Spain has sent forces to assist the Miguelite cause.

In England, the bill removing the civil disabilities of the Jews was thrown out in the House of Lords—though supported by Lord Bexley and the Lord Chancellor—by a vote of 104 against 54 for the bill. The Archbishop of Canterbury, the Bishop of London, and the Clergy generally, (the Archbishop o Dublin voted for it)—the Duke of Wellington and the whole Tory party opposed it—Lord Grey was absent, and was understood as not wishing the bill to be considered a government measure.

A dreadful account is given in the papers, which we have not room to publish, of the destruction by fire of the *Hibernia*, bound to Van Dieman's Land, with 232 passengers, of whom only 63 were saved.

Paris, Aug. 3.—The following appears in the *Journal de Frankfort*, which we received to-day by express:—

It is with deep indignation that we learn, by letters from the Russian frontiers, that another attempt at assassination has been made on the person of the Emperor Nicholas, which happily was discovered a short time before the day appointed for its execution.

We received at the same time a letter from Wisbaden, of the date of the 30th of July, which contains the following particulars:—

Some strangers, who have recently arrived at Frankfort from the North, are uncertain whether the Emperor Nicholas will go to Germany. According to their account the Russian Government is far from having got hold of all the accomplices of the conspiracy which was formed against the life of the monarch. It is said that, in consequence of the search caused by the projected attempt, it was discovered that great quantities of powder had been purchased at Riga, with which the conspirators intended to charge a mine, situated in the great road between Petersburgh and Wilna, and to set fire to it at the very moment the carriage of the Emperor should pass.

Later from New Grenada.—By the brig Elizabeth, Capt. Briggs, arrived last night from Carthagena, we received on official account signed by the Governor of that place, stating that he had received information of the discovery by the President of a conspiracy at Bogota on the night of the 23d July. Measures were immediately taken by him to arrest those concerned in it. Colonel Jose Manuel Montoya, military chief of the province, was ordered to apprehend an individual named Arjona, whose previous conduct had given cause to suspect him. While conducting Arjona to prison, Montoya was assassinated by him in the street.—His accomplices, sixty in number, thinking their plans discovered, that night fled from the capital on the road to Tunja. They were, however, all made prisoners by the Governor of that place, with the exception of five individuals, on the 26th. Among the number was the above named Arjona. And order was again restored.

Capt. Briggs states that a misunderstanding had arisen between one of the authorities of Carthagena and the French Consul, M. Barrot, who was in consequence confined in prison, but his liberation was momentarily expected. A French schooner of war was in the harbor on the point of sailing for Martinique, with the ratification of a treaty of commerce which had been concluded between New Grenada and France.—[Journal of Commerce.]

MISCELLANY.

The Duchess of Abrantes, in her Memoirs, speaking of the attachment of Napoleon to the young and promising son of his brother *Louis*, introduces upon one occasion the Emperor as telling the young prince his nephew the following story. It is a new version of an affecting catastrophe, familiar to all our readers through the beautiful lines of Mrs. Hemans, on the death of young *Casabianca*, and is translated for our columns by literally one of our "most youthful readers."

[For the New-York American.]

Mr. Editor—If the enclosed, translated by one of your most youthful readers, be deemed worthy of a place in your valuable journal, it will gratify

E. S. K.

CASABIANCA.

One day they were at St. Cloud, and the Emperor was telling a very interesting story, which he related with that power of voice and looks, which I have never seen, excepting in him. The young prince was at first seated on the knees of the Empress, but at length he slipped gently off, and came and placed himself before the Emperor, looking full in his face with his large blue eyes, animated with an expression truly admirable—they were sparkling sapphires. His little bosom heaved, and it was evident that he suffered with his emotion. The Emperor was relating a tale fitted to touch the heart of a child happily endowed. I have before noticed, I think, the talent he had for story-telling, and the taste he displayed in it. He often, for example, altered a little the truth, to increase the interest and effect. But on that evening, it was noticed that nothing was added: it was so judged by his own emotion. He related a naval battle, and, like Homer, he raised his voice above the waves: he made the cannon roar, and the dying groan. He placed you upon the deck of a vessel, the planks of which, stained with blood, and covered with bodies, began to complain under the action of the fire, of which a thousand tongues, of all colors, pierced through the hatches, and ascended encircling along the masts and yards. That vessel which a few hours before, lorded it royally in the harbor of Aboukir, and presented more than five hundred human beings, full of life and strength, on its deck, was deserted, and all those that had not been wounded by the bullets of the enemy, hastened to escape from certain death, by throwing themselves in the sea, and gained the shore by swimming. A single man yet stood there, his arms crossed on his broad chest. His features soiled with blood, black with powder and smoke, he looked with saddened eyes on another man still breathing, lying at his feet; having both his legs carried away, and losing both his blood and his life, without uttering a complaint. He thanked God, on the contrary, for having taken him from this world. His dying eyes were raised to look on the flag of republican France. A few steps distant from the dying man, was a young boy of about fourteen, dressed in blue, and without any mark of distinction. A small sword was by his side, and in his sailor belt were two pistols. He looked at the dying man with an expression of profound despair, but at the same time with a resignation which indicated that he too had done with life. That vessel was L'Orient—the dying man was Casabianca, commanding the Admiral vessel on the expedition to Egypt, and the young boy was the son of the veteran chief.

'Save that child!' said the Captain to the Quarter-Master—'save yourselves, both of you. There is yet time. Leave the old sailor to die by himself. He is now no more than a damaged old cartridge.'

'Advance not!' said the Midshipman, waving his hand towards him; save yourself. For me, my place is here; I will *not* leave my father.'

'My son,' said the dying father, casting a look on that noble child—a look, filled with all the joy that can animate the heart of a father—'my son, I command you to go!'

At that moment a fearful crash was heard among the planks of the vessel. The flames gained the mastery—a horrible explosion announced the fate of the victim of that dreadful day, that of the L'Orient. Already the planks were burning under their feet. The Quarter-Master for one moment felt an emotion of fear. His eyes glanced towards the shore, scarcely two hundred fathoms off, for, (said the Emperor) Admiral Brueys, the wretched man fought where he was embayed—that emotion, so natural to every man anxious to preserve life, was but transient. He resumed his indifferent attitude, only his eye twinkled as he looked at the young boy; and upon a sign from the dying father, he again attempted to force him away; but the youth presenting one of his pistols, threatened to lay him dead at his feet if he persisted.

'I should, and will remain,' he exclaimed. 'Save yourself, and may Heaven preserve you—you have no time to lose.'

Another crash, which burst from the bottom of the hold like a profound groan, made the sailor shudder. His eye turned to the magazine: the flames were on the point of reaching it. A few minutes more, and it would be too late. The youth felt all that that look implied, and throwing himself down by the side of his father, he encircled him in his arms—'Go,' he cried to the Quarter-Master. 'Father, bless me.'

These were the last words the sailor heard. He sprang into the sea, and stretched for the shore; but he had not made many strokes before the L'Orient blew up with a fearful explosion. He was still so near that he was covered by the nails and fragments torn from the ship in her last agony. He was taken up by the people on shore, was conveyed to headquarters, and, added the Emperor, it was he that told us of the sublime devotedness of the young Casabianca. 'What should I do in the world,' said he, 'when his father again pressed him to go. 'You are dying—the navy is dishonored.'

It was a noble boy, pursued the Emperor. His death is the more to be regretted, as possibly he might have surpassed the Duguay Thouins, and the Duquesnes. I always remember with pride that he was of my family.

But it was a curious spectacle to remark the countenance of the young Napoleon—his large blue eyes fixed on the Emperor with an avidity which it is impossible to describe. And when his uncle had finished, he approached him, and getting on his knee, he said to him—Is it true, what you have been saying? What do you wish to know for? Because I will pray to God for that young boy and his father, answered the young Prince.

The Emperor was touched. He raised his nephew and embraced him. And you, too, said he, you will be a brave and a good boy.

The Troy Press is publishing a series of letters from Mr. Ball, a gentleman who formed one of the party that crossed the continent a year or two since, for the purpose of settling on the shores of the Pacific. We make a few extracts:

Face of the Country West of the Rocky Mountains.—One immense priarie extends from the mountains, with the exception of scattering trees, of the pinus genus, (mostly of the mountains,) to the Falls of the Columbia. Along the streams are willows, and oft n rank grass, but as you recede from them, a thin crop of rank grass and shrubbery succeeds, and the soil generally becomes barren. At the Falls commences a growth of oak, and at tide water, a thick growth of lofty trees of different kinds; still the prevailing character of the country is prairie until you get nigh the coast, where the growth of vegetables of all kinds is enormous.

The Climate of Oregon.—Here the farmer has not to labor half the summer and all the winter to provide for his animals—he is not compelled to fence and plough and sow his seed in *one* or *two* short months—he ploughs, and his cattle *graze* the whole year. The settlers in this valley have already raised one crop; which succeeded well. They have a few cattle, horses, and hogs, all of which are in good order, without any feeding through the winter. Although we are in the latitude of Montreal, the farmers have been ploughing since January, the vegetables in the garden have remained uninjured through the winter. In favorable situations the grass is already springing up. On the Wallameth, I saw two weeks ago, alders and willows in bloom, and leaving out. Strawberries and brier bushes had continued green through the winter. Crops that are put in the ground as late as July, yield a plentiful harvest. There is a vast difference in the temperature on the two sides of the Continent. Here the summers are long and fine, and everything can be raised, that can be raised with you, or even in Virginia. I have already spoken of the vine and the peach: tobacco has also been tried, and with success.

During November, Fahrenheit ranged at from 49° to 56°. One half of that month was as bright weather as any I ever saw; during that time there was usually a white frost every night. I am informed there fell that month 4 1-2 inches rain. In December 9 inches; frost but two or three times; thermometer in the morning at 40° at noon from 40 to 50°; rain from the S. and S. E. East and north winds always bring fair weather. Half of the month of January the weather was as cold as has been known in this region, there being a constant frost. At one time the thermometer ranged as low as 17°; at noon from 30 to 40°. The Columbia river froze over, but the Wallameth did not. During the rest of January, the weather was as usual; there fell but one inch of rain. This month (February) has been cloudy part of the time. There have been what you would call April showers, but the amount of rain that has fallen is not great. We have had frost a few times, though in the morning the thermometer has usually stood at 40°, and at noon at 50°. Nigh the ocean, it is said, it never freezes.

Valley of the Multnomah.—This week I have returned from an excursion up the River Multnomah or Wallameth. It is far from the stream laid down on your maps, for its most distant source is not probably more than 200 miles in a direct course from its mouth. Its general course is South and is fed by a number of branches from the Snow Mountains already spoken of, and a ridge running not far from the coast on the West. The river at one point approaches within fifty or sixty miles of the sea.

The valley of the Multnomah may be two hundred miles in length and fifty in breadth, and a beautiful valley it appears from what I have seen of it. Extensive plains well clothed with grass, interspersed throughout with oaks crowned with missletoe and lofty firs and pines, altogether presenting great facilities for settlers. The soil is generally fertile, though perhaps not equal to some on the Mississippi and Ohio. Its quality however, I should think, through the whole of it, will average with respect to fertility and the aspect of its surface, the lands of New-England.

Wherein then, do you ask, consists its advantages—I answer *in climate.*

White Residents.—Fort Van Couver is the general depot of the Hudson's Bay Company, West of the mountains. An express arrives and departs from this place once a year, for Hudson's Bay, and a so for Montreal. A ship arrives annually from England. Besides, they have three smaller vessels employed in trading along the coast, and in carrying supplies to the posts. To the north, along the coast, and also far inland, they have several posts. In short, their operations—trapping and trading for furs, are extended from California to the Pole. You are doubtless aware of the long standing of this company—its great wealth and extended operations over a region of country but little known to any but themselves.

The gentlemen of the campany appear generally intelligent, especially Mr. McLaughlin, who is the acting Governor. Governor Simpson himself is at present at Hudson's Bay. There is also residing here a Mr. Douglass, a naturalist; but apprehending they might be a little jealous of imparting their hard earned intelligence about this region of country, I have not felt myself free to make many inquiries.

It is seven years since they commenced an establishment here, and having found it very expensive to furnish the number of persons they employ with provisions from England, or elsewhere, they have been induced to go quite extensively into agricultural pursuits. Mr. McLaughlin, having obtained a few cattle from California, has increased them to about 400. He raised the last year about 1200 bushels of wheat, barley, peas, Indian corn, potatoes, and garden vegetables. This year he is extending his operations. Fruit trees have been planted; among the rest the vine and the peach. They have sheep and hogs. Their horses they obtain from the Indians. The pursuit of agriculture seems to prosper well in their hands, though begun with difficulty. Mr. McLaughlin encouraged a few men (some of whom came out here with Mr. Astor's concern) to settle on the Multnomah, where, as I said, I intend also to settle. He has liberally engaged to lend me a plough, an axe, oxen, cow, &c.

Probable Diffusion of Original Population.—Every system of heathen mythology had its origin in the corruption of patriarchial worship before the dispersion at Babel. There the whole family of man was collected in the descendants of Noah's three sons, Shem, Ham, and Japhet; and thence, at that time, they were scattered abroad by the hand of God, over the world. Japhet colonized the whole of Europe; all those northern regions called Tartary and Siberia; and, in process of time, by the easy passage of Behring's Straits, the entire continent of America. His son Gomer seems clearly to have been the father of those who were originally called Gomerians; and by slight variations, were afterwards termed Comarians, Cimmerians, Cymbri, Cumbri, Cambri, and Umbri; and, in later years, Celts, Gauls, and Gaels. These extended themselves over the regions north of Armenia and Bactriana; thence over nearly all Europe, and first planted Britain and Ireland. Magog, Tubal, and Mesech, as we learn from Ezekiel, dwelt far to the north of Judea, and became the ancestors of the Sclavonic or Sarmatian families; the name of Magog still existing under the appellations of Mogli, Mongols, and Mongolians; those of Tubal and Mesech, in Tobolski, Muschici, and Moscow and Moscovites: Madai was father of the Medes, and Javan of the original inhabitants of Greece, where we may trace the names of his sons Elishah, Tarshish, Kittim, and Dodanim, in Elis, Tarsus, Cittium, and Dodona. The posterity of Shem were confined to Southern Asia; founding by his sons Elam, or Persia, Ashur, or Assyria, a province of Iran, or Great Assyrian empire of Nimrod, whose son Cush appears to have subdued these descendants of Shem. Arphaxad became the father of the Hebrews and other kindred nations; his descendant Peleg founded Babylonia; and Joktan, stretching far towards the east, probably became the father of the Hindoos. Ophir, one of the sons of Joktan, is often mentioned in the Scripture as dwelling in a land of gold, to which voyages were made by ships issuing from the Red Sea, and sailing eastward; but Elam and Cush occupied the whole sea coast of Persia, as far as the Indus. This, therefore, brings us to the great peninsula of Hindostan for the seat of Ophir. Lud, the fourth son of Shem, is presumed to be the founder of Lydia; and Aram, the fifth, the father of Mesopotamia and Syria. Ham was at first mixed with Shem throughout Southern Asia; and became the sole occupant of Africa. Of his sons, Cush became the founder of Iran, or Central Asia, the great Assyrian empire, and the progenitor of all those called Cushim, Cushas, Cuths, Goths, Scythe, Scots, or Gauls. Mizraim peopled Egypt; Phut, the western frontier of Egypt, and thence passing west and south, spread over the greater part of Africa; and Canaan, it is well known, peopled the tract afterwards inhabited by the Israelites.—Thus, it is said, was the world peopled; and that it was thus peopled, we learn not only from Moses, but from profane writers; and find both accounts confirmed by abundant evidence in the manners, traditions, language, and occupance of the different races at the present day. Sir William Jones found only three great original languages to exist—Arabic, Sclavonic, and Sanscrit; and these three all issue from one point, Central Asia, whence, by consent of the most ancient records and traditions of the great primeval nations, their original ancestors spread.—[Howi t's History of Priestcraft.]

Man's Body a Machine.—Now grant that man's body is a machine, where are the points of resistance? are they not in the ground he stands upon? This leads us to inquire by what property we stand. Is it by the weight of the body, or, in other words, is it by the attraction of the earth? The terms attraction, or gravitation, lead at once to the philosophy of the question. We stand because the body has weight, and a resistance in proportion to the matter of the animal frame, and the magnitude of the globe itself. We wait not at present to observe the adjustment of the strength of the frame, the resistance of the bones, the elasticity of the joints, and the power of the muscles to the weight of the whole. Our attention is directed to the relations which the frame has to the earth we are placed upon. * * * By such considerations we are led to contemplate the human body in its different relations. The magnitude of the earth determines the strength of our bones, and the power of our muscles; so must the depth of the atmosphere determine the conduct of our fluids, and the resistance of our blood vessels; the common act of breathing, the transpiration from the surfaces, must bear relation to the weight, moisture, and temperature of the medium which surrounds us.

A moment's reflection on these facts proves to us, that our body is formed with a just correspondence to all these external influences.—[Sir C. Bell's Bridgewater Treatise on the Hand.]

Love of Life.—There is an indescribable something that ties us to life, For this purpose it is not necessary that we should be happy. Though our life be almost without enjoyment, we do not consent to part with it. Without going to the extreme of Mæcenas, who said, 'though my hand, my foot, my hip, should refuse to do their functions, though I should have a mountain on my back, and my teeth be loosed in their sockets, nay, nail me, if you will, upon a cross, still I desire to live:" without this, there is nevertheless a sentiment that stirs within us, that produces an undefinable aversion to the thought of ceasing to be, "to lie in cold oblivion and to rot." It was this that inspired Robinson Crusoe, or whoever was his actual prototype, and every shipwrecked mariner, when he has found himself thrown on a coast without human inhabitants. It is a dreary thing to be cut off from the society of fellows and the accommodations of civilized life. We should almost expect an individual so circumstanced, to climb a neighboring promontory, and cast himself back into the element from which he had been rescued. But it is not so. He looks round, and begins to collect the fragments and broken planks of the vessel in which he had been embarked. He is like the wretch who watches a dying flame. He gathers together every combustible material that offers itself to his view, that he may detain the celestial visiter. He casts about and considers how he may supply himself with nourishment and shelter. He meditates perseveringly, and counts up all his resources. He shrinks from no labor. He is appalled by no privations. Life, life is the inexplicable thing we cling to; and however we may pretend to hold it cheap and to brave death when at a distance, we all of us, with very few exceptions, and those arising from a preternatural tension, verify the apophthegm of the Scripture, "Skin for skin, yea, all that a man hath will he give for his life." The mind of man bends itself after a short struggle to the yoke of necessity. "Things without all remedy," are found to be "without regard." We shut ourselves up within the compass of possibilities, and become reconciled to what cannot be avoided. There are indulgences without which a man thinks he cannot live; there are benefits that seem to constitute the core and soul of our existence; but, when these can no longer be had, we make the best of what is still within our reach.—[Godwin's Delorain.]

Sensibility of the Skin.—The fuller the consideration which we give to this subject, the more convincing are the proofs that the painful sensibility of the skin is a benevolent provision, making us alive to those injuries which, but for this quality of the nervous system, would bruise and destroy the internal and vital parts. In pursuing the inquiry, we learn with much interest that when the bones, joints, and

all the membranes and ligaments which cover them are exposed—they may be cut, pricked, or even burned, without the patient or the animal suffering the slightest pain. These facts must appear to be conclusive; for who, witnessing these instances of insensibility, would not conclude that the parts were devoid of sensation? But when we take the true philosophical, and I may say the religious, view of the subject, and consider that pain is not an evil, but given for benevolent purposes and for some important object, we should be unwilling to terminate the investigation here. In the first place, we must perceive that if a sensibility similar to that of the skin had been given to these internal parts, it must have remained unexercised. Had they been made sensible to pricking and burning, they would have possessed a quality which would never have been useful, since no such injuries can reach them; or never without warning being received through the sensibility of the skin. But, further, if we find that sensibility to pain is a benevolent provision, and is bestowed for the purpose of warning us to avoid such violence as would affect the functions or use of the parts, we may yet inquire whether any injury can reach these internal parts without the sensibility of the skin being excited. Now, of this there can be no doubt, for they are subject to sprain and rupture, and shocks, without the skin being implicated in the accident. If we have been correct in our inference, there should be a provision to guide us in the safe exercise of the limbs; and notwithstanding what has been apparently demonstrated of the insensibility of these internal parts, they must possess an appropriate sensibility, or it would imply an imperfection.—How consistant, then, and beautiful is the distribution of the quality of life! The sensibility to pain varies with the function of the part. The skin is endowed with sensibility to every possible injurious impression which may be made upon it. But had this kind and degree of sensibility been made universal, we should have been racked with pain in the common motions of the body; the mere weight of one part on another, or the motion of the joint, would have been attended with that degree of suffering which we experience in using or walking with an inflamed limb. But on the other hand, had the deeper parts possessed no sensibility, we should have had no guide in our exertions. They have a sensibility limited to the kind of injury which it is possible may reach them, and which teaches us what we can do with impunity. If we leap from too great a height, or carry too great a burthen, or attempt to interrupt a body whose impetus is to great for us, we are warned of the danger as effectually by this internal sensibility, as we are of the approach of a sharp point or a hot iron to the skin.—[Sir C. Bell's Bridgewater Treatise on the Hand.]

AMERICAN INSTITUTE.

☞ THE Sixth Annual Fair of the American Institute will be held in the city of New York, at Masonic Hall, on Tuesday the 15th of October next, and continue three days

Premiums, consisting of Diplomas, or Medals, will be awarded, as usual, for such articles of American production, as shall be adjudged superior either in material or workmanship.

As a new impetus seems to have been lately given to American industry, it is confidently expected that the Fair announced for October next, will present still more decisive evidence of the advancing condition of our agriculture, our manufactures, and the arts, than any of those which have preceded it.

Such ingenious and useful machinery as may be conveniently transported, and put in operation, will give interest and spirit to the occasion.

Each article should be labelled with the name of the manufacturer, or producer, and with the agent's name, and number, in this city.

The design is to inform buyers where they can supply themselves with the best articles. In this way, by means of former Fairs, many excellent workmen have become better known and have obtained permanent and profitable customers, who, while they have been better served, have at the same time rewarded and stimulated American skill and industry.

Articles entered for premiums must be delivered as early as Monday, the 14th of October.

More particular notices will be published previous to the Fair. For any other information which may be desired, apply to either of the Managers, in person or by letter.

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New-York July 4th, 1833. A29 tf13 ow R J

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Hudson, Columbia county, New-York, January 29, 1833. F3 tf

INSTRUMENTS.

SURVEYING AND NAUTICAL INSTRUMENT MANUFACTORY.

☞ EWIN & HEARTTE, at the sign of the Quadrant, No. 53 South street, one door north of the Union Hotel, Baltimore, beg leave to inform their friends and the public, especially Engineers, that they continue to manufacture to order and keep for sale every description of Instruments in the above branches, which they can furnish at the shortest notice, and on fair terms. Instruments repaired with care and promptitude.

For proof of the high estimation on which their Surveying Instruments are held, they respectfully beg leave to tender to the public perusal, the following certificates from gentlemen of distinguished scientific attainments.

To Ewin & Hearttе —Agreeably to your request made some months since, I now offer you my opinion of the Instruments made at your establishment, for the Baltimore and Ohio Railroad Company. This opinion would have been given at a much earlier period, but was intentionally delayed, in order to afford a longer time for the trial of the Instruments, so that I could speak with the greater confidence of their merits, if such they should be found to possess.

It is with much pleasure I can now state that notwithstanding the Instruments in the service procured from our northern cities are considered good, I have a decided preference for those manufactured by you. Of the whole number manufactured for the Department of Construction, to wit: five Levels, and five of the Compasses not one has required any repairs within the last twelve months, except from the occasional imperfection of a screw, or from accidents, to which all Instruments are liable.

They possess a firmness and stability, and at the same time a neatness and beauty of execution, which reflect much credit on the artists engaged in their construction.

I can with confidence recommend them as being worthy the notice of Companies engaged in Internal Improvements, who may require Instruments of superior workmanship.

JAMES P. STABLER,
Superintendent of Construction of the Baltimore and Ohio Railroad.

I have examined with care several Engineers' Instruments of your Manufacture, particularly Spirit levels, and Surveyor's Compasses; and take pleasure in expressing my opinion of the excellence of the workmanship. The parts of the levels appeared well proportioned to secure facility in use, and accuracy and permanency in adjustments.

These Instruments seemed to me to possess all the modern improvement of construction, of which so many have been made within these few years; and I have no doubt but they will give every satisfaction when used in the field.

WILLIAM HOWARD. U. S. Civil Engineer.

Baltimore, May 1st, 1833

To Messrs Ewin and Hearttе—As you have asked me to give my opinion of the merits of those instruments of your manufacture which I have either used or examined, I cheerfully state that as far as my opportunities of my becoming acquainted with their qualities have gone, I have great reason to think well of the skill displayed in their construction. The neatness of their workmanship has been the subject of frequent remark by myself and of the accuracy of their performance I have received satisfactory assurance from others, whose opinion I respect, and who have had them for a considerable time in use. The efforts you have made since your establishment in this city, relieve us of the necessity of sending elsewhere for what we may want in our line, deserve the unqualified approbation and our warm encouragement. Wishing you all the success which your enterprize so well merits, I remain, yours, &c.

B H LATROBE,
Civil Engineer in the service of the Baltimore and Ohio Railroad Company.

A number of other letters are in our possession and might be introduced, but are too lengthy. We should be happy to submit them upon application, to any persons desirous of seeing the same. m26

☞ GRACIE, PRIME & CO. offer for sale, at 24 Broad street—

2 cases Gum Arabic
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2 do Gall nuts; 20 tons Old Lead
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1 case 50 bottles Syron de Vinaigre
10 cases White Hermitage; 20 do. Cotte Rotie
10 do Dry St. Peray; 50 do. Bordeaux Grave
20 do Chateau Grille; 5 cases each 12 bottles Olives in Oil
8 bales Fine Velvet Bottle Corks
100 do. Bourbon Cloves
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2 do do do Red do Gold do
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Baltimore, 1832.

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Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable.

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to later at angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used instruments made by Mr. W. J. Young, of Philadelphia, in which he has combined the properties of a Theodolite with the common Level.

I consider these instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY R. CAMPBELL, Eng. Philad. Germant. and Perkio. Railroad

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METEOROLOGICAL RECORD, KEPT IN THE CITY OF NEW-YORK,

From the 20th to the 26th day of August, 1833, inclusive.

[Communicated for the American Railroad Journal and Advocate of Internal Improvements.]

Date.	Hours.	Thermomtr.	Barometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather.
August 20..	6 a. m.	65	30.15	N	fresh	NNW	fair
	10	70	30.17	NNE	..	..	..
	2 p. m.	78	30.19	S	..	..	..
	6	73	30.19	SE	..	..	..
	10	69	30.19	..	..	..	..
" 21..	6 a. m.	65	30.19	NNE	moderate	S	..
	10	70	30.19	..	..	..	..
	2 p. m.	75	30.15	SE	..	SE	..
	6	69	30.13	..	..	..	cloudy
	10	65	30.10	..	fresh	..	..
" 22..	6 a. m.	63	30.05	..	moderate	S	..
	10	70	30.01	NNE	light	..	..
	2 p. m.	81	30.00	S	..	..	.. —hazy
	6	78	29.98	..	..	SW	.. ..
	10	72	29.97	NE	..	..	.. .. at s
" 23..	6 a. m.	70	29.90	..	fresh	SW / ENE	.. —foggy
	10	72	29.95	..	..	..	..
	2 p. m.	74	29.98	..	..	..	..
	6	68	30.00	..	..	..	..
	10	67	30.03	..	..	..	fair
24..	6 a. m.	61	30.15	..	moderate	..	clear
	10	68	30.17	NNE	..	..	..
	2 p. m.	73	30.18	NE—E	light	..	..
	6	68	30.18	SE	..	..	..
	10	65	30.18	..	..	..	..
" 25..	6 a. m.	66	30.18	SW	..	..	..
	10	74	30.18	..	moderate	..	..
	2 p. m.	78	30.10	SW to W	..	WSW	fair
	6	74	30.08	..	light	..	..
	10	70	30.08	..	..	..	..
" 26..	6 a. m.	66	30.03	WSW	..	..	..
	10	74	30.04	SW by W	..	..	..
	2 p. m.	81	29.98	SW	..	..	..
	6	79	29.96	..	..	..	..
	10	74	29.90	..	..	..	..

Average temperature of the week, 71°.

POETRY.

AUGUST.

Sweet sabbath of the year!
While evening-lights decay,
Thy parting steps methinks I hear
Steal from the world away!

Amid thy silent bowers
'Tis sad but sweet to dwell;
Where falling leaves and drooping flowers
Around me breathe farewell.

Along thy sunset skies
Their glories melt in shade;
And, like the things we fondly prize,
Seem lovelier as they fade.

A deep and crimson streak
Thy dying leaves disclose;
As on consumption's waning cheek,
'Mid ruin, blooms the rose.

Thy scene each vision brings
Of beauty in decay;
Of fair and early faded things,
Too exquisite to stay;

Of joys that come no more;
Of flowers whose bloom is fled;
Of farewells wept upon the shore;
Of friends estranged or dead;

Of all that now may seem
To Memory's tearful eye
The vanished beauty of a dream,
O'er which we gaze and sigh.

[*From the London Court Journal.*]

SHE IS NO MORE!

The rose upon her cheek was red,
And, on its faithless tint relying,
Though languor came and vigor fled,
We could not think that she was dying!

We bore her to yon distant shore,
Where Arno rolls, a stream of gladness!
But Alps and ocean, traversed o'er,
But added sorrow to our sadness!

Devoted beauty! on thy cheek,
Though deep Decay has placed her finger,
Still health imparts a glowing streak,
And there, unblanched, her roses linger!

There is no sorrow in thy sigh—
Like Hope, reposing on her anchor—
Thine eye is bright—thy cheek is dry,
But 'neath its vermeil tint, the canker!

So, when autumnal suns arise
And Nature's radiant form is brightest,
The groves display their richest dies,
But wither while their leaves are brightest.

MARRIAGES.

On Tuesday morning, the 3d instant, at Trinity Church, by the Rev. Dr. Anthon, Mr. C. B. Miller, to Sarah A., daughter of the late Philip Verplanck, Esq., of Verplanck's Point.

This morning, by the Rev. Dr. Anthon, George A. Jarvis, to Catharine Amelia, daughter of Samuel Jarvis, Esq. all of this city.

Last evening, by the Rev. Dr. Brownlee, George H. Kissam, A. B., to Miss Mary Ann Cordray; all of this city. a31*

On Tursday morning, by the Rev. Dr. M'Elroy, Mr. Albert A. Downing, to Miss Nancy St. John, both of this city.

At Williamsburgh, L. I., on Tuesday evening the 3d instant, by the Rev. Dr. Johnson, R. J. Wyckoff, merchant of N. York, to Eliza Ann, daughter of Jordon Coles, Esq., of the former place.

DEATHS.

On Thursday morning, after a short illness, Wm. C. Bache, in the 22d year of his age.

On Thursday morning, Anna Lydia, infant daughter of Rev. H. P. Tappan.

On Friday, the 23d inst. Elizabeth Gertrude, only daughter of Seldon Huntington, of Haddam, Conn., aged 8 months and 15 days.

This morning, Sarah, wife of A. Woodhull.

Yesterday, after an illness of six weeks, at the residence of his brother, No. 86 White street, Mr. Henry Brooks, aged 26 years, son of the Hon. P. C. Brooks, of Boston.

On Sunday, Mathew William, eldest son of Wm. Stodart, aged 10 years.

Last evening, of lingering consumption, at the Hotel of Stephen Holt, Esq. Mrs. Jerusha S. Holt, consort of Mr. Stephe B. Holt, and daughter of Mr. Cornelius Schuyler.

On Sunday afternoon, at 4 o'clock, after a lingering illness, Mrs. Ann B. Marsh, wife of William Marsh, aged 31 years.

On Tuesday morning, after a lingering illness, in the 38th year of her age, Mrs. Catharine Clancey, wife of William Clancey.

On Monday evening, (after a lingering illness, which was borne with Christian patience, and terminated with Christian hope,) Mrs. Catharine Clayton, wife of Mr. Joel T. Clayton, in the 46th year of her age.

Drowned on Friday last, 30th ult. Mr. Sewall H. Barton, aged 28.

This morning, in the 22d year of his age, Daniel D., son of the Rev. Benj. Mortimer.

On Tuesday evening, the 2d instant, Eleanor Burger, the infant daughter of Thomas B. Whitlock, aged 18 months.

In this city, on Saturday, the 21st of August, Mrs. Sarah Brady, consort of Gen. H. Brady of the U. S. Army, aged 55 years. The sympathies of the whole community, the united testimony of that same community to the high moral qualities and rare virtues of the deceased, must furnish a rich consolation to her venerable and afflicted husband, her children and immediate relations. As wife, mother, or friend, she had few equals, no superiors. The church, of which she was a bright ornament, can fix upon her life and the moment of her death, as among the most perfect illustrations of the power, the influence and value of the Christian religion.—[Communicated.]

Another of the few Revolutionists gone.—This morning, Mr. John Johnson, aged 75 years and 4 months. His illness was long, and severe. He entered the service of his country before he was 18 years old, and continued during the whole period of the Revolutionary struggle, evincing the most earnest desire for the cause of freedom. One of the oldest merchants of the city, he has sustained until death, an unreproachable character, and left to his friends and society a valuable example of perseverance and industry.

In Brooklyn, September 3d, Mr. Thomas H. Bicknell, aged 30 years.

On Sunday morning, at Red Hook, after a short illness, Emily Caroline, the wife of Robert Tillotson, Esq. and daughter of the late Nicholas Gouverneur, of this city.

In Westfield, Massachusetts, on Sunday last, Eli B. Hamilton, Esq. councellor at law.

In Springfield, Massachusetts, on Sunday last, Col. Roswell Lee, aged 56. Col. L. has been for the last 18 years, the Superintendent of the National Armory.

At Philadelphia, 1st inst. James Robinson, Printer, aged 34 years, of the firm of Sleight & Robinson, printers, of this city.

At Newburyport, Mass. 29th ult. Daniel Foster, Esq. Naval Officer of the port, aged 71 years.

Also, on Thursday morning last, John, infant son of Colonle John Anderson, U. S. A., aged three years and eight months.—[Detroit Jour. and Adv.]

At New Orleans, August 13th, Dr. Uselma Clark, formerly of Philadelphia.

At Havana, August 3d, of a fever, Andrew Ewell, mate of the schooner Wanderer, and Samuel Tarbell, seaman of do both belonged to Camden, Maine.

At Texas, on the 29th July last, Mary, eldest daughter of Capt. Henry Austin, late of this city, in the 17th year of her age

In Liverpool, on the 31st July, after an illness of six hours, Mr. John M'Dowall, a partner of the house of Andrew M'Dowall & Co. of Charleston, S. C. Mrs M'Dowall had taken passage to sail next day in the line ship South America, for New York. He was accompanied to Liverpool by his cousin, Dr. Porter. It is thought that they had partaken too freely of fruit the day previous. Mr. M'Dowall was taken sick at 3 o'clock in the morning, and died at 9. Dr. Porter was taken ill the same day, and died the following morning.

RAILWAY IRON.

☞ Ninety-five tons of 1 inch by ¾ inch,
200 do. 1½ do. ¾ do.
40 do. 1½ do. ½ do.
800 do. 2 do. ¾ do.
800 do. 2½ do. ¾ do.
soon expected.

Flat Bars in lengths of 14 to 16 feet counter sunk holes, ends cut at an angle of 45 degrees with splicing plates, nails to suit.

250 do. of Edge Rails of 36 lbs. per yard, with the requisite chairs, keys and pins.

The above will be sold free of duty, to State Governments, and Incorporated Governments, and the Drawback taken in part payment. A. & G. RALSTON.
9 South Front street, Philadelphia.

Models and samples of all the different kinds of Rails, Chairs, Pins, Wedges, Spikes, and Splicing Plates, in use, both in this country and Great Britain, will be exhibited to those disposed to examine them. a3 4meowr

RAILROAD CAR WHEELS AND BOXES, AND OTHER RAILROAD CASTINGS.

☞ Also, AXLES furnished and fitted to wheels complete, at the Jefferson Cotton and Wool Machine Factory and Foundry, Paterson, N. J. All orders addressed to the subscribers at Paterson, or 60 Wall street, New-York, will be promptly attended to. Also, CAR SPRINGS.
Also, Flange Tires turned complete.
J8 ROGERS, KETCHUM & GROSVENOR.

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Hudson, Columbia county, New-York, January 29, 1833. F3 tf

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☞ PROFESSOR RAFINESQUE, of Philadelphia, will undertake to build CARS that will carry along their own railway, and may be used on level M'Adam roads. They will save ten millions of money to be wasted on 1000 miles of iron railroads to be laid in the United States within a few years, and dispense with tracks and double tracks. These Cars may be drawn by horses or steam. He claims to have discovered them ever since 1825, by his caveats filed in the Patent Office. Apply, post paid. S1 R J M M & F

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☞ INCOMBUSTIBLE dwelling-houses and buildings of all kinds devised or built in New-York, or any part of the United States, as cheap as any other combustible buildings. Actual buildings and houses rendered incombustible at a small additional expense.

SHIPS of all sorts, and Steamboats, rendered incombustible, and not liable to sink, at a small expense.

For sale, 10,000 lbs. of ANTIGNIS, or Incombustible Varnish, at one dollar per lb.

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References in New-York.—Mr. Minor, Editor of the Mechanics' Magazine; Messrs. Rushton & Aspinwall, Druggists.

Editors in the city or country, copying this advertisement, will receive a commission on any contract procured by their means. S1 R J M M & F

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